

COMPARATIVE GRAMMAR

AND

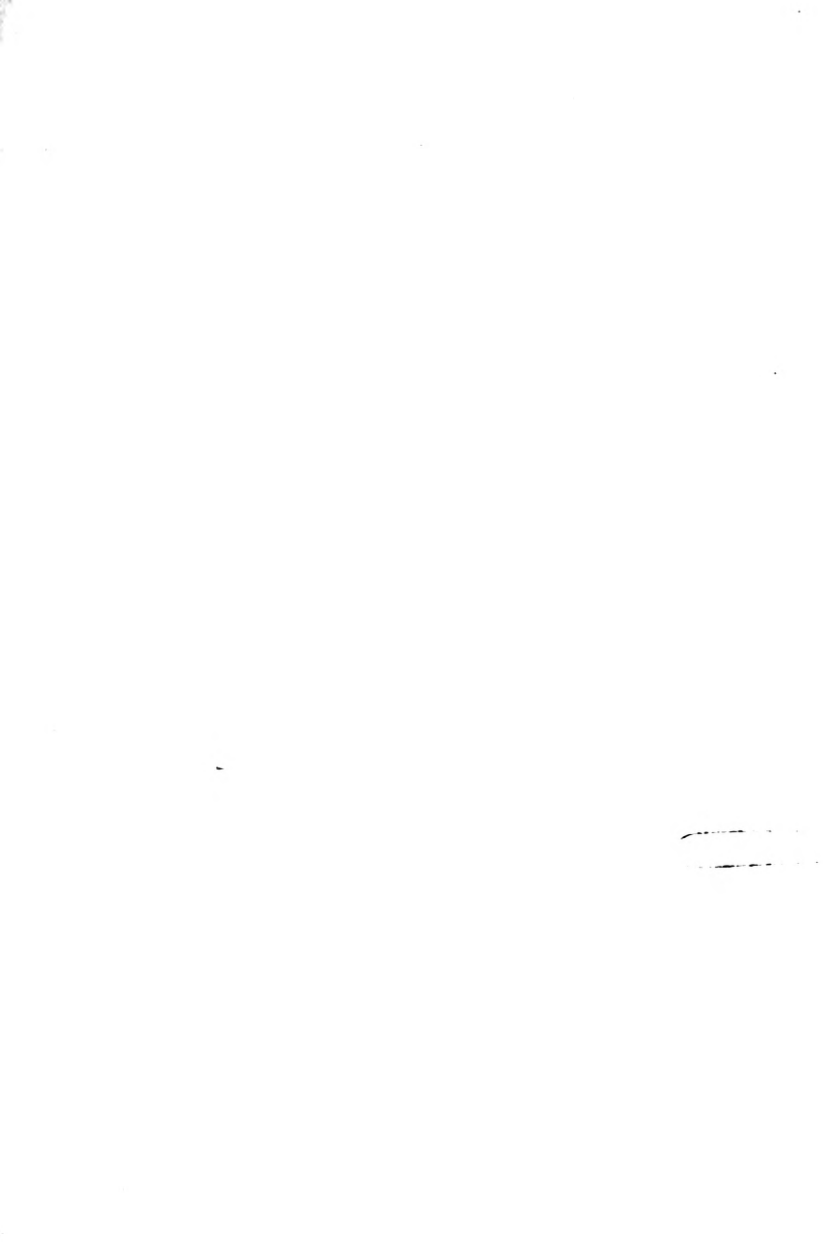
PHILOLOGY

PRICE 1/6



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C. K. OGDEN





ELEMENTS OF COMPARATIVE
GRAMMAR AND PHILOLOGY.

ELEMENTS OF
COMPARATIVE GRAMMAR
AND PHILOLOGY.

(FOR USE IN SCHOOLS.)

BY

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PREFACE.

THIS book is designed mainly for the aid of boys who are preparing for scholarship examinations at Oxford or Cambridge. It is the custom at those examinations to set questions bearing on the subject of Comparative Grammar and the Science of Language, but the ordinary manuals of Philology are either too elementary or too difficult, too sketchy or too lengthy, to be used as textbooks in schools. It is hoped that this book may to some extent serve to bridge over the gap which exists, for instance, between such works as Mr. Peile's excellent little *Primer* and Mr. Papillon's more ambitious *Manual*. It puts forward, of course, no pretensions to originality either of matter or method, its sole object being to summarize the views of the recognized authorities as concisely and clearly as possible. With this end in view, special care has been taken to select only such instances and examples as are likely to be familiar to boys, and the list of authorities appended to each chapter, for the benefit of those who desire to pursue the subject further, is designedly limited to those writers whose works are available in an English form; it is perfectly useless to refer boys to treatises, however able, written in a foreign tongue.

It need hardly be said that in a science like Philology, which is still in its infancy, finality and certainty cannot as yet be expected. Every day is adding to our knowledge on the subject, and the accepted theories of one week are the

exploded delusions of the next. German scholars in particular have been fertile in such hypotheses and suggestions, but as no English work has yet been published definitely adopting their views, it has been thought best to confine the statements in the text to those for which some recognized English authority could be cited if necessary.

A. C. P.

LEEDS, 1886.

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¹ This is cited in preference to Mr. Morris's larger work as being more likely to be in the possession of boys.

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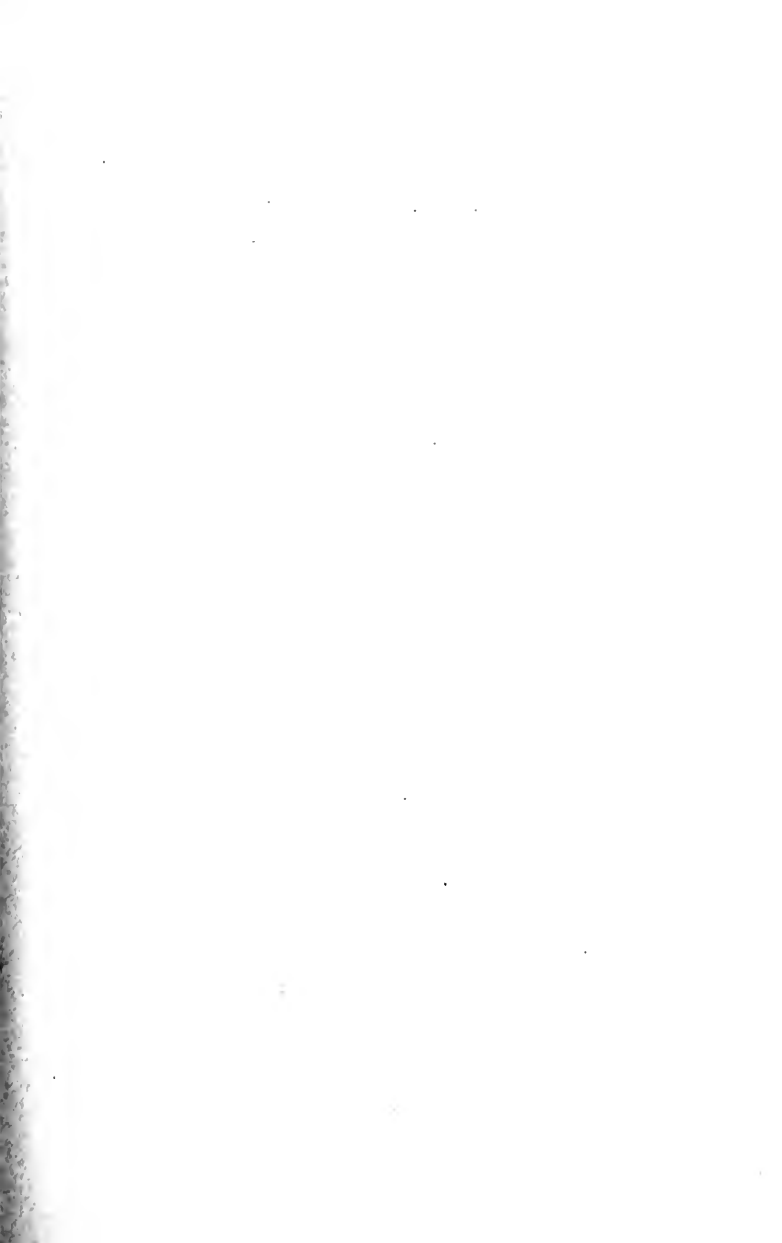


DIAGRAM TO SHOW THE CASE ENDINGS IN THE CLASSICAL LANGUAGES.

	Indo-European	Greek Vowel Stems	Consonant Stems	A	Vowel Stems	Latin	Consonant Stems	Greek Vowel Stems	Special Neuter Terminations	Latin Vowel Stems
Nom	Σ	α, ε, ι, ο, ω	κ, γ, π, β, τ, θ, δ, λ, ρ, σ, ξ, ψ, φ, χ, ζ, θ, δ, λ, ρ, σ, ξ, ψ, φ, χ, ζ	Α-Α Σ	Ε Σ	Ι Σ-Ο Σ	Ι Σ	Ι Σ, α, ε, ι, ο, ω, υ, φ, χ, ζ, θ, δ, λ, ρ, σ, ξ, ψ, φ, χ, ζ	(Verbal stem used)	Stem
Voc	(Pure stem) M	(Stem) α, ε, ι, ο, ω	(Stem) κ, γ, π, β, τ, θ, δ, λ, ρ, σ, ξ, ψ, φ, χ, ζ, θ, δ, λ, ρ, σ, ξ, ψ, φ, χ, ζ	(Stem) Α-Α Σ	(Same as Nominative)	Ε=Ο, Ι Stem	(Same as Nominative)	(Same as Nominative)	(Same as Nominative)	(Same as Nominative)
Acc	Μ	α, ε, ι, ο, ω	κ, γ, π, β, τ, θ, δ, λ, ρ, σ, ξ, ψ, φ, χ, ζ, θ, δ, λ, ρ, σ, ξ, ψ, φ, χ, ζ	Α-Α Σ	Ε Μ	Ι Μ-Ο Μ	Ι Μ	Ι Μ, α, ε, ι, ο, ω, υ, φ, χ, ζ, θ, δ, λ, ρ, σ, ξ, ψ, φ, χ, ζ	(Same as Nominative)	(Same as Nominative)
Gen	Ν	α, ε, ι, ο, ω	κ, γ, π, β, τ, θ, δ, λ, ρ, σ, ξ, ψ, φ, χ, ζ, θ, δ, λ, ρ, σ, ξ, ψ, φ, χ, ζ	Α-Α Σ	Ε Ι=Ο Ι, Ι Σ=Ε Α Σ	Ι=Ο Ι=	Ι Σ	Ι Σ, α, ε, ι, ο, ω, υ, φ, χ, ζ, θ, δ, λ, ρ, σ, ξ, ψ, φ, χ, ζ	(Same as Nominative)	(Same as Nominative)
Loc	Ι	α, ε, ι, ο, ω	κ, γ, π, β, τ, θ, δ, λ, ρ, σ, ξ, ψ, φ, χ, ζ, θ, δ, λ, ρ, σ, ξ, ψ, φ, χ, ζ	Α-Α Σ	Ε Ι	Ι=Ο Ι=	Ι Σ	Ι Σ, α, ε, ι, ο, ω, υ, φ, χ, ζ, θ, δ, λ, ρ, σ, ξ, ψ, φ, χ, ζ	(Same as Nominative)	(Same as Nominative)
Dat	ΑΙ	α, ε, ι, ο, ω	κ, γ, π, β, τ, θ, δ, λ, ρ, σ, ξ, ψ, φ, χ, ζ, θ, δ, λ, ρ, σ, ξ, ψ, φ, χ, ζ	Α-Α Σ	Ε Ι=Ε Ι=	Ι=Ο Ι=	Ι Σ	Ι Σ, α, ε, ι, ο, ω, υ, φ, χ, ζ, θ, δ, λ, ρ, σ, ξ, ψ, φ, χ, ζ	(Same as Nominative)	(Same as Nominative)
Abi	ΑΙ	α, ε, ι, ο, ω	κ, γ, π, β, τ, θ, δ, λ, ρ, σ, ξ, ψ, φ, χ, ζ, θ, δ, λ, ρ, σ, ξ, ψ, φ, χ, ζ	Α-Α Σ	Ε Ι=Ε Ι=	Ι=Ο Ι=	Ι Σ	Ι Σ, α, ε, ι, ο, ω, υ, φ, χ, ζ, θ, δ, λ, ρ, σ, ξ, ψ, φ, χ, ζ	(Same as Nominative)	(Same as Nominative)
Instr	ΑΙ	α, ε, ι, ο, ω	κ, γ, π, β, τ, θ, δ, λ, ρ, σ, ξ, ψ, φ, χ, ζ, θ, δ, λ, ρ, σ, ξ, ψ, φ, χ, ζ	Α-Α Σ	Ε Ι=Ε Ι=	Ι=Ο Ι=	Ι Σ	Ι Σ, α, ε, ι, ο, ω, υ, φ, χ, ζ, θ, δ, λ, ρ, σ, ξ, ψ, φ, χ, ζ	(Same as Nominative)	(Same as Nominative)
Nom and Voc	ΑΙ	α, ε, ι, ο, ω	κ, γ, π, β, τ, θ, δ, λ, ρ, σ, ξ, ψ, φ, χ, ζ, θ, δ, λ, ρ, σ, ξ, ψ, φ, χ, ζ	Α-Α Σ	Ε Ι=Ε Ι=	Ι=Ο Ι=	Ι Σ	Ι Σ, α, ε, ι, ο, ω, υ, φ, χ, ζ, θ, δ, λ, ρ, σ, ξ, ψ, φ, χ, ζ	(Same as Nominative)	(Same as Nominative)
Dat and Loc	ΑΙ	α, ε, ι, ο, ω	κ, γ, π, β, τ, θ, δ, λ, ρ, σ, ξ, ψ, φ, χ, ζ, θ, δ, λ, ρ, σ, ξ, ψ, φ, χ, ζ	Α-Α Σ	Ε Ι=Ε Ι=	Ι=Ο Ι=	Ι Σ	Ι Σ, α, ε, ι, ο, ω, υ, φ, χ, ζ, θ, δ, λ, ρ, σ, ξ, ψ, φ, χ, ζ	(Same as Nominative)	(Same as Nominative)
Acc	ΑΙ	α, ε, ι, ο, ω	κ, γ, π, β, τ, θ, δ, λ, ρ, σ, ξ, ψ, φ, χ, ζ, θ, δ, λ, ρ, σ, ξ, ψ, φ, χ, ζ	Α-Α Σ	Ε Ι=Ε Ι=	Ι=Ο Ι=	Ι Σ	Ι Σ, α, ε, ι, ο, ω, υ, φ, χ, ζ, θ, δ, λ, ρ, σ, ξ, ψ, φ, χ, ζ	(Same as Nominative)	(Same as Nominative)
Gen	ΑΙ	α, ε, ι, ο, ω	κ, γ, π, β, τ, θ, δ, λ, ρ, σ, ξ, ψ, φ, χ, ζ, θ, δ, λ, ρ, σ, ξ, ψ, φ, χ, ζ	Α-Α Σ	Ε Ι=Ε Ι=	Ι=Ο Ι=	Ι Σ	Ι Σ, α, ε, ι, ο, ω, υ, φ, χ, ζ, θ, δ, λ, ρ, σ, ξ, ψ, φ, χ, ζ	(Same as Nominative)	(Same as Nominative)
Instr	ΑΙ	α, ε, ι, ο, ω	κ, γ, π, β, τ, θ, δ, λ, ρ, σ, ξ, ψ, φ, χ, ζ, θ, δ, λ, ρ, σ, ξ, ψ, φ, χ, ζ	Α-Α Σ	Ε Ι=Ε Ι=	Ι=Ο Ι=	Ι Σ	Ι Σ, α, ε, ι, ο, ω, υ, φ, χ, ζ, θ, δ, λ, ρ, σ, ξ, ψ, φ, χ, ζ	(Same as Nominative)	(Same as Nominative)

Note. — It may be interesting to compare the Old English declension of *Wulf* (Wolf) with the Latin declension of *Canis* (Dog).

Sing	Nom. and Voc.	Wulf	Canis
	Gen.	Wulfes	Canis
	Dat.	Wulfe	Canis
	Acc.	Wulf	Canis
	Instr.	Wulfe	Canis

ELEMENTS OF COMPARATIVE GRAMMAR AND PHILOLOGY.

CHAPTER I.

LANGUAGE AND SPEECH.

LANGUAGE and Speech are not synonymous terms. All Speech indeed is Language, but all Language is not Speech. The two terms stand to one another then in the relation of genus to species, Speech being merely a subdivision of Language. In order then to investigate the nature of Speech we must clearly understand what is meant by Language.

NOW LANGUAGE may be roughly described as *any means whereby we can express thought*. We are conscious in ourselves of certain more or less definite ideas and sentiments, and these feelings we naturally desire to impart to others. Any means then whereby this communication is effected may be described as Language.

A very little consideration will show that men communicate with one another in several different ways, and that Speech is by no means the only method employed. As a vehicle of communication, however, it is so far superior to all others that its chief organ, the tongue, has given its name to the whole system of "Language" (from the Latin *lingua*): but it should be carefully borne in mind that we can convey to one another thoughts and sentiments by many other means than those of spoken or written words.

Gesture, for instance, is a method of constant application, and one that must be familiar to all, for it is in constant use even in the most civilized communities. We all know the meaning of the contemptuous shrug of the shoulders, the angry contraction of the brow, the scornful curl of the lip, the indignant glance of the eye. Such bodily movements are doubtless to a large degree instinctive, but none the less they afford a more or less trustworthy clue to the nature of the passions and emotions at work beneath the surface. In many cases indeed gesticulation or pantomime is the only means whereby communication can be effected, as, for instance, in the case of deaf mutes, and those can form some idea of the value of the method who have been present at a theatrical performance without being able to distinguish the words uttered. Travellers' tales, too, teem with instances in which conversation has had to be held with members of another race solely by the aid of gestures. Of the Redskins in particular it is recorded that even when perfect strangers, and speaking quite different tongues, they can with the greatest ease communicate with one another by the use of pantomime. One tribe indeed—the Arapahoes of North America—are said to be so dependent on gesticulation that they are unable to converse in the dark.

But there are other modes of communicating thought besides Speech and Gesture. It seems indisputable, for instance, that *Music* is a most powerful vehicle for conveying and exciting emotions. Among the ancients, indeed, this fact was so clearly recognized that Plato treated music as a means of mental education, and expressly excluded from his ideal state all such tones or harmonies as might tend to enervate or corrupt the mind. *Painting* and *Sculpture*, too, from early ages, have been regarded as most effective means for the expression of ideas, and, as we shall see later, it is to pictorial art that the written symbolism of speech traces its origin.

In a similar way we might go on to show that each or all of our senses might be, and probably often unconsciously are, utilized as vehicles of communication. All, however, of such methods, compared with Speech, labour under more or less serious disadvantages. The proper interpretation of Music, for instance, requires the most delicate harmony of sympathy and conception between the composer and the person who would fain understand his meaning. Painting, again, even in the case of the most skilfully constructed panorama, can only represent a series of isolated actions, the links between which have to be supplied by the imagination of the spectator, and that it is not an infallible method is shown by the fact that savages often cannot comprehend pictures at all. The language of Pantomime or Gesticulation is open to similar objections, and though it stands next in importance to Speech, is nevertheless very defective. Professor Tylor, for instance, points out—

1. That it has little power of expressing abstract ideas :
 “the deaf mute can show particular ways of making things, such as building a wall, or cutting out a coat, but it is quite beyond him to make one sign include what is common to all these, as we use the abstract term, *to make*.”
 2. That it has no signs for what he calls “grammatical words.” Thus in the sentence *the hat which I left on the table is black*, there will be signs for what may be called the real words, *hat, leave, table, black*, but for the grammatical words, *the, which, is*, the Gesture language has no signs.
 3. That it makes no distinction between substantives, adjectives, and verbs, *e.g.*, pretending to warm one’s hands may suggest *warm*, or *to warm oneself*, or *fireplace*.
 4. That it cannot express inflections of words.
- We might add that it, as well as Painting, and indeed

Writing, is of no use in the dark. From such defects SPEECH is comparatively free, and is manifestly the most perfect system of communication known. No human community has been found destitute of the capacity of communicating by speech, and it is one of the chief signs that distinguish men from brutes, for brutes, though they can apparently, in many cases, understand the words of their masters, have never yet been found capable of intelligently reproducing them. Though the power of Speech, however, may be innate in man, it appears clear that intercourse is required to call that faculty into operation. The case of the savage of Aveyron is often referred to as an illustration of a person brought up in complete solitude remaining dumb, and a well-known fact tending to the same end is that persons who are born deaf are very often dumb also, never having heard the sound of a human voice, and so being ignorant of their own powers.

Various definitions have been given of Speech. Bacon describes words as *counters for notions*: others talk of them as *petrified thoughts*. For our purpose it will be sufficient to describe Speech as *the expression of thought by means of vocal sounds*. The word 'vocal' is of importance, for not all sounds are speech, but only those produced by the 'vocal organs.'

Authorities—Tylor, chap. iv.

Whitney, chap. i.

Peile, *Primer*, chap. viii.

CHAPTER II.

THE VOCAL ORGANS.

THE Vocal Organs consist of the Lungs, Windpipe (*trachea*), Larynx, Pharynx, Mouth, Nose, etc.

The function of the Lungs is to act as bellows emitting a current of air. This current passes through the Windpipe into the Larynx, a kind of box, cylindrical and narrow below, but broad above. The lid of this box, so to speak, is formed of two half-valves of elastic membrane, known as the *vocal chords*. These valves in ordinary breathing are relaxed, and leave a comparatively wide opening at the top of the Larynx of a triangular shape. This opening is called the *Glottis*, and if fully open, *breath* pure and simple issues forth. If, however, the valves are brought together and made tense, so that merely a narrow aperture is left, the current of air passing through makes them vibrate, and the result is *Sound* or *Voice*, the notes being high or low in proportion to the rapidity of the vibrations. In any case the air, be it 'breath' or 'voice,' passes into the cavity of the Pharynx and out through the mouth or nose, the position of these upper organs admitting of variation, so as to produce a variety of tones.

We see, then, that the current of air is the material of Speech, and that it is modified or checked by the vocal chords and organs of the mouth, the result being the various alphabetic sounds, which are divided into different classes according as the current of air is 'breath' or 'voice,' and according as it is checked and modified, or left free and uninterrupted. Thus :—

- (a.) Mere 'breath' perfectly unchecked produces the *aspirate*—our H—the Greek "rough breathing."
- (b.) 'Voice' unchecked, but more or less modified by the position of the cheeks (*buccal tubes*), produces *vowels*.
- (c.) 'Voice' or 'breath' either checked entirely by the lips, teeth, tongue, or palate, coming into contact with each other, or partially compressed by the same organs approximating to each other, produces *consonants*.

Consonants themselves are variously classified, viz. :—

- (A.) According to the material of the sound, into
 - (a.) *Surds*, also known as *tenues*, *smooth*, *sharp*, and $\psi\iota\lambda\alpha$, resulting from the interruption or modification of 'breath,' e.g. K, T, P.
 - (b.) *Sonants*, also known as *mediae*, *soft*, *flat*, and $\mu\acute{\epsilon}\sigma\alpha$, resulting from the interruption or modification of 'voice,' e.g. G, D, B.
- (B.) According to the nature of the check, into
 - (a.) *Mutes* (*momentary* or *explosive* sounds) when the 'voice' or 'breath' is interrupted, and the sound is produced by the removal of the check, e.g. K, G, B, P.
 - (b.) *Semivowels* (*continuous* or *fricative* sounds) when the 'voice' or 'breath' is not completely interrupted, but merely compressed by the approximation of the mouth organs. Under this head fall
 - (a.) *Nasals*.—When the stream of air passes through the nose instead of the mouth, e.g. N, M.
 - (β.) *Liquids* (or *Trills*).—When the stream of air passes over the tip of the tongue (e.g. R) or over the sides of the back of the tongue (e.g. L).

(γ.) *Spirants* (or *Sibilants*).—The hissing or breathing sound produced when the current of air is compressed between the tip of the tongue and the hard palate (*e.g.* S, Z, Y), or when it has to find its way out through the teeth, owing to the lower lip touching the upper teeth (*e.g.* F, V).

(c.) According to the parts of the mouth that approach each other, into

(a.) *Labials*.—When the under lip approaches the upper lip or upper teeth, *e.g.* P, B.

(b.) *Dentals*.—When the fore part of the tongue approaches the upper teeth, *e.g.* T, D.

(c.) *Palatals*.—When the middle part of the tongue approaches the middle of the palate, *e.g.* Y.

(d.) *Gutturals*.—When the root of the tongue approaches the back of the palate, *e.g.* K, G.

Of the actual number of these vocal sounds there is some doubt, and the question is one not easy to answer, for different races through different causes, such as climate, temperament, mode of life, &c., show an affinity for certain sounds and a distaste for others. We all know from our own experience what difficulty many persons find in pronouncing the aspirate, and how common an infirmity is the tendency to sound R as W, and S as TH. The inability, moreover, to pronounce the nasals, or what people popularly, though incorrectly, describe as “speaking through the nose,” is a phenomenon that regularly accompanies the affliction of a severe cold. Such familiar instances in every-day life will prevent us feeling much surprised at hearing that the Chinese cannot pronounce R, that the Sandwich Islanders cannot distinguish K from T, that Arabic has no P, the Mo-

hawks no labials, the Society Islanders no gutturals.¹ The list might be almost indefinitely extended, but enough has been said to show what innumerable varieties there are in the sounds of different nations, and how difficult and almost hopeless a task it is, therefore, to attempt to enumerate them.

Authorities—Meyer, *passim*.

Max Müller, series ii. lect. iii.

Sayce, vol. i. chap. iii. and iv.

Ferrar, chap. i.

Whitney, chap. iv.

Peile, *Introd.* chap. iv. ; *Primer*, chap. viii.

Papillon, chap. iii.

Morris, chap. iv.

N.B.—Sayce, vol. i. chap. iv., gives Prince Lucien Buonaparte's list of 385 possible alphabetic sounds. Max Müller's "Physiological Alphabet" is given on the opposite page : it is to be found explained in his Lectures in the passage cited above. Another table is given by Peile (*Introd.* chap. iv.), and on p. 92 he quotes the vowel table of Mr. Bell, and on p. 97 that of Professor Lepsius. Whitney (*l. c.*) gives a novel arrangement of the English Alphabet.

¹ Professor Sayce says that Polynesians turn *David* into *Raviri*, *Samuel* into *Hemara*, *London* into *Renana*, that the Chinese pronounce *Christ* as *Ki-li-sse-t(ŭ)*, and that the Japanese say *idoratry* for *idolatry*. He points out also that the use of nose-rings causes the confusion of labials and the great nasalization of the Pacific Americans, and that the characteristic South African lisp is due to the filing and extraction of teeth.

PHYSIOLOGICAL ALPHABET (CONSONANTS).

	Place of Pronunciation.	Rushing Surd.	Emissions of Breath.		Rushing Trilled.	Checks of Breath.		
			Rushing Sonant.	' and.		Rushing Surd.	Rushing Sonant.	Rustling Nasal Sonant.
1.	Glottis	' hand.			—			—
2.	Root of tongue and soft palate	ch. loch.	' Tage (Germ.).		r.	k (kh).	g (gh).	n (ng).
3.	Root of tongue and hard palate	ÿ. ich (Germ.).	ÿ. yea.		—	k (kh).	g (gh).	ñ (ny).
4.	Tip of tongue and teeth .	s. rice.	z. to rise.		l.	t (th).	d (dh).	—
5.	Tongue and reversed palate	s. sharp.	z. pleasure.		r.	t (th).	d (dh).	(n).
6.	Tongue and edge of teeth	th. breath.	dh. breathe.		—	—	—	—
7.	Lower lip and upper teeth	f. life.	v. live.		—	—	—	—
8.	Upper and lower lips . .	—	w. Quell (Germ.).		—	p (ph).	b (bh).	m.
9.	Upper and lower lips rounded	w. which.	w. with.		—	—	—	—
		Fricative sive continue			Prohibitive sive explosivæ.			

CHAPTER III.

THE ORIGIN OF WRITING.

WE have seen now the material of which Speech consists and the manner in which it is produced, and the table just quoted has shown us the possible varieties of consonantal sounds. Before going further, however, it will be expedient to point out how these sounds have been expressed by written symbols, that is to say, the manner in which our Alphabet¹ has developed.

Now it is obvious that, strictly speaking, Writing has nothing to do with Speech: they appeal to quite different senses—the former to the eye, the latter to the ear—and “it is a mere accident that language should ever have been reduced to writing.” Accident though it be, however, it is one that has been fraught with the happiest consequences to the human race. “If we set aside,” says Dr. Isaac Taylor, “the still more wonderful invention of Speech, the discovery of the Alphabet may fairly be accounted the most difficult, as well as the most fruitful of all the past achievements of the human intellect. It has been at once the triumph, the instrument, and the register of the progress of our race . . . (Without writing) law would be mainly custom, science little more than vague tradition, history would be uncertain legend, while religion must have consisted mainly of rhythmic adorations and of formulas of magical incantation . . . Science

¹ The word *alphabetum* is not used by any writer older than Tertullian, but its existence may be inferred from the use of the compound *ἀναλφάβητος*, which dates from the time of Philyllius, a writer of the middle comedy. For the idea, cf. Juv. xiv. 209 (Taylor).


and religion would tend to remain the exclusive property of a sacerdotal caste, and the chasm which separates the rulers and the ruled grow greater and more impassable." Bacon compares Writing to a ship crossing the vast ocean of time, and making all ages share in the lights, the wisdom, and the inventions of the past.

Inestimable, however, though the invention of Writing has been, we must remember that it is really only third in order of three stages. First in rank and time comes THOUGHT, without which Speech is mere jabbering and Writing mere scribbling. Secondly comes SPEECH, the more or less adequate expression of thought by means of sound. Thirdly, we place WRITING, whose relation to speech has been compared to that of the shadow to the substance, or, as Augustine says, *signa sunt verba visibilia, verba sunt signa audibilia*.

Writing, which has been described as the "Art of recording events and sending messages," is nothing but the development of the art of Painting—a connection which the Greek language perpetuated by using the verb *γράφειν* in the double signification of *to write* and *to paint*. Slow and painful, however, were the stages that it had to go through before arriving at its present perfection. "What can seem simpler than A, B, C, and yet what is more difficult when we come to examine it?" This difficulty is illustrated by the fact that there are many races even now which have no conception of Writing, while others have arrived at a certain stage in the development of the art, but have never yet succeeded in advancing beyond, and yet "Without an Alphabet any complete system for the graphic representation of speech is an acquirement so arduous as to demand the labour of a lifetime."

The first stage in Writing seems to be the drawing of a picture to represent an actual object, whether living or inanimate. This is, or at any rate was till quite recently, in

common use among the Indian tribes in North America, as is proved by abundant evidence. We also ourselves have traces of it left in the astronomical symbols often seen in almanacks. Thus ☉ represents the sun, ☾ the Moon, ♈ Aries—the horns of the Ram standing for the whole animal.

It is obvious, however, that this writing by means of portraying can only apply to concrete things—to objects which we can touch or see—but it is impossible to draw a picture of abstract qualities, such as vice or virtue, swiftness or cunning. The only mode then of denoting abstract ideas is to draw figures of such actual objects as suggest the required notions to the mind—"a bird signifying rapidity, a fox cunning, a serpent holding its tail in its mouth eternity, a sceptre power," &c. Thus we find the Roman numerals, i. ii. iii. signifying not three *lines* or *fingers*, but the *ideas* of unity, duality, and trinity. Printers' signs too such as —meaning not *a hand*, but *notice*—and trade symbols, like the three balls denoting a pawnbroker's shop, come under the same head.

These pictures representing actual objects, or abstract ideas, are called, technically, IDEOGRAMS, *i.e.* delineations of forms. A further stage in the Art of Writing is marked by these ideograms becoming PHONOGRAMS, that is to say, by the pictures no longer representing actual objects, or ideas, but merely *sounds*. Thus, for instance, the picture of a pear might originally be an ideogram denoting merely the fruit of the pear tree, or possibly the abstract quality, 'ripeness,' or 'fruitfulness': at a subsequent period, however, it might become a phonogram and denote merely the sound of the word 'pear': thus it might represent 'pair' and 'pare' just as well as 'pear.'

Now these Phonograms themselves pass through three stages, viz. :—

- i. The *Verbal* stage, *i.e.* when the symbol stands for the

- sound of the whole word ; as when the picture of a 'pear' stands for the sounds 'pear,' 'pare,' 'pair,' etc.
- ii. The *Syllabic* stage, when the picture stands no longer for the sound of the whole word, but only for that of one of the articulations of which the word is composed, *i.e.* one of its 'syllables ;' *e.g.* when the picture of a pear represents merely the sound *pe*.
 - iii. The *Alphabetic* stage, when the picture stands neither for the sound of the whole word nor for that of one of its syllables, but merely for one of the elementary sounds into which that syllable may be resolved, *i.e.* one of what we call its 'letters,' *e.g.* when the picture 'pear' stands merely for the sound of the letter *p*.

To take another instance,¹ *𐎟* might conceivably represent first the 'moon in the heavens, or the idea 'brightness : ' then the sound of the word *moon*, as in the vulgar pronunciation of 'immunity' : next the sound of the syllable *moo* (*e.g.* in *mo-ve*) : and lastly the letter M.²

Such then are the stages through which the art of Writing has gone, but, as was said above, it is by no means every race that has reached the Alphabetic stage of development. The Aztecs, for instance, of Mexico at the time of the Spanish conquest had got as far as the transition from ideograms to phonograms, though their neighbours—the Mayas of Yucatan—exhibit in their relics twenty-seven clear alphabetic characters. The Chinese again have got as far

¹ The instances quoted in the text are merely imaginary. The letter M is really derived from *mīlag*, the Egyptian term for 'owl,' and the two ears of the bird still remain in the points of the letter.

² A good illustration of Phonographic writing is the common puzzle, known as a 'rebus,' in which the picture of an object is used to denote any word or part of a word which has the same sound as the name of the thing portrayed—*e.g.* the words *To be or not to be* might be represented by the following symbols : the numeral 2, a picture of a *bee*, the word *or*, a picture of a *knot*, the numeral 2, and the picture of a *bee*.

as verbal phonograms, while the Japanese have reached the syllabic stage. For our purposes, however, the Egyptian inscriptions are of most importance, for in them we find traces of every stage of Writing, and it is from Egypt that (according to the most plausible theory) all the alphabets of Palestine, and of Phœnicia, of Greece, and of Rome, and in fact of almost every State in modern Europe, derive their origin.

The earliest relic we have of EGYPTIAN, or in fact of any, Writing is, according to Dr. Taylor, the tablet of king Sent, preserved in the Ashmolean Museum at Oxford, the date of which is assigned to about 4700 B.C.¹ Even in it, however, we find semi-alphabetic forms, a fact which throws back the origin of Writing to a very remote antiquity. It was for the purpose of preserving the "solemn records of Church and State," that these inscriptions were used by the Egyptians, and hence they got the name of *hieroglyphs* or sacred sculptures. In these hieroglyphs we apparently find every stage in the development of Writing, even to that of alphabetic symbols, though the latter only exist in a very rudimentary form. The elaboration, however, of the hieroglyphic pictures was too cumbersome for ordinary use, and was especially unfitted for writing on papyrus. Hence a custom sprung up of abbreviating the pictures, by merely sketching a hasty outline in as few strokes as possible, and this "running hand" was known as *hieratic* writing. Our knowledge of its characters depends mainly on the "Papyrus Prisse" at Paris, which is thought to date from a time anterior to Abraham. Some time between 2300 and 1700 B.C., these hieratic characters seem to have become known to the PHŒNICIANS, who founded on them an alphabet of their own, retaining the Egyptian symbols but altering the names

¹ It should be mentioned that there is great doubt as to the Egyptian chronology. Mariette Bey and Lenormant, for instance, put the reign of Menes, the earliest king, as far back as 5004 B.C., while Sir G. Wilkinson and Mr. R. S. Poole assign it to about 2700 B.C.

according to their own fancy.¹ As to the fact of this appropriation the ancients had a very shrewd suspicion—witness the following passage of Tacitus (Annals, xi. 14)—*primi per figuras animalium Aegyptii sensus mentis effingebant; (ea antiquissima monimenta memoriæ humanæ impressa saxis cernuntur) et litterarum semet inventores perhibent: inde Phœnices, quia mari præpollebant, intulisse Græciæ, gloriamque adeptos tanquam repererint quæ acceperant.* As to the date an important piece of evidence is the Biblical record with reference to the Israelites. Previous to their sojourning in Egypt they seem to have had no knowledge whatever of writing, but after the exodus we get many distinct traces of their acquaintance with the art. The earliest passage in the Bible in which contemporary writing appears to be alluded to, is said to be Exodus xvii. 14, where Moses is enjoined to write in a book the account of the overthrow of the Amalekites at Rephidim. No monumental evidence, however, of the old Phœnician or Hebrew characters of anything like so early a date is extant. The main relics on which we depend for our knowledge of them are :—

1. The Baal-Lebanon Bowl, attributed to the tenth century B.C., discovered in 1876 by M. Clermont Ganneau, and now preserved at Paris.
2. The Moabite Stone, probably of the ninth century B.C., discovered in 1868 by Mr. Klein, of the Church Missionary Society : now in the Louvre.
3. The Siloam Inscription at Jerusalem, discovered in 1880, and deciphered by Professor Sayce : assigned to the seventh century B.C.

¹ The change of names is not at all extraordinary. The Phœnicians thought that the hieratic symbol for *A* resembled an ox's head, and so they called it *aleph* (an ox), though the Egyptians, intending it to represent an 'eagle,' had called it *aham*. In an exactly similar way the Russians, though they have borrowed the Greek Alphabet, have yet changed its names : *B*, for instance, they call, not *beta*, but *buki* (= beech); *D*, not *delta*, but *dobro* (= oak).

Gradually the Phœnician Alphabet spread over the west of Asia, until at last it reached GREECE. Its arrival there is symbolized by more than one old legend. *Fama est* (says Tacitus in the passage quoted before) *Cadmum classe Phœnicum vectum rudibus adhuc Græcorum populis artis ejus (i.e. writing) auctorem fuisse: quidam Cecropem Atheniensem vel Linum Thebanum et temporibus Trojanis Palamedem Argivum memorant sedecim litterarum formas, mox alios ac præcipuum Simonidem ceteras repperisse.* In the myths, however, truth seems to be so much mingled with falsity, that no stress can be laid on their authority. We seem, however, quite justified in considering that the Alphabet reached Greece through at least two channels, viz. :—

1. Through the Babylonians and Lydians to the Chalkidians of Eubœa, owing to whom it became the prevalent system throughout Western Hellas.
2. Through the Ionians, whose system was adopted in Eastern Hellas.

The main differences between these two systems were that the Chalkidians used X to represent *Xi* (Ionian Ξ) and \vee to denote *Chi* (Ionian X) : they also wrote *Delta*, *Lambda*, and *Sigma* thus \blacktriangleright , \vee , \lesssim , while the Ionians wrote them Δ , Λ , Σ : moreover, they retained *Vau* (F), *Koppa* (Q), and *San* (M), which the Ionians allowed to drop into disuse.

The date when the Phœnician alphabet reached Greece is very doubtful. Dr. Taylor puts it as early as the twelfth century B.C., but our oldest extant inscriptions can hardly be referred to an earlier date than the ninth. In connection with this question considerable importance is attached to an inscription at Abu Simbel in Egypt (apparently of the seventh century B.C.), as it shows clear traces of a great development as compared with the Phœnician system—a fact which leads irresistibly to the inference that the Greeks must have adopted the Alphabet long previous to this period, otherwise it is hard to see how the changes could have been

brought about. The most important of these changes are :—

1. The writing runs from left to right, whereas in the Phœnician inscriptions it runs from right to left.¹
2. The Phœnician Alphabet contained no vowels but several “guttural breaths” (*Aleph, He, Cheth, Ayin*), and semi-consonants (*Vau, Yod*): in Greek these have become vowels (*α, ε, η, ο, υ, ι*).
3. The shapes of the letters are considerably changed.
4. New letters (*e.g., φ, χ, ψ*), are added.

It is obvious that changes like these must have required a considerable time to produce, and hence it does not seem to be assuming too much to place the introduction of the Phœnician Alphabet into Greece as early as 1100 or 1200 B.C.

The Ionian Alphabet, then—that is to say, the one which is commonly known to us as the “Greek Alphabet”—borrowed from the Phœnician the name, order, and shape of the following letters—A, B, Γ, Δ, E, Z, H, Θ, I, K, Λ, M, N, Ξ, O, Π, P, Σ, T. To these it added Υ, Φ, X, Ψ, Ω. It lost, however, the *Digamma* (or *Vau*), *San*, and *Koppa*, but we have clear proof of the use at one period of these last three letters by the Greeks, viz. :—

¹ We know of at least four modes of writing, viz. :—

1. From left to right, as in modern English.
2. From right to left, as in the old Greek inscription on the Burgon Vase—

ΙΜΕ . ΝΟΛΘΑ . ΖΘΕΖΘΑ . ΝΟΤ—i.e.
τῶν Ἀθήνηθεν ἄθλων εἰμί.

3. *κιονηδόν*, i.e. columnwise, the letters running from the top to the bottom of the page.
4. *βουστροφηδόν*, i.e. “as the ox turns in the furrow,” the letters running in one line from right to left, and in the next from left to right, e.g.—

[ΣΟΙ]ΑΙΤΣΙ
[ΑΝΕΘ]ΗΚΕΤΩ
[ΙΖ]ΩΛΛΟΗ

i.e., Ἰστιάϊος ἀνέθηκε τῷ (Α) πόλλων.

1. The fact that *Koppa* remained as a numeral in Greek, while *Vau*'s place was taken by the manufactured compound *stigma* (ς), and *San*'s by *Sanpi* (λ).
2. The survival of *San* and *Koppa* as horse-brands. Cf. Aristoph. Eq. 603, Nub. 122. 24.
3. The scansion of many lines in Homer showing by the apparent existence of a hiatus that a consonant (*Vau*) has been lost. Cf. Odyss. ix. 209, ἐν δέπας ἐμπλήσας ὕδατος ἀνὰ Φείκοσι μέτρα. It will be seen later that a similar hypothesis is required to account for the peculiarities in the augment or reduplication of certain verbs.
4. Comparison with cognate words in other languages points to a similar fact, e.g. οἶκος by the side of *Vicus*, ἔστι by the side of *Vesta*.

Even without this evidence a strong argument for the existence of these consonants in Greek might be drawn from the fact that they are known to have existed in the Phœnician Alphabet, and that two of them—*Vau* and *Koppa*—survive in Latin as F and Q.

The 24 existing letters in the Greek Alphabet were known as τὰ Ἴωνικά γράμματα. They were not, however, formally recognized at Athens till the archonship of Eukleides, 403 B.C.

The LATIN Alphabet was derived not from the Ionian system but from the Chalkidian, through the Chalkidian colony of Cumæ which was founded not later than the ninth century B.C. Hence the Romans retained *Vau* and *Koppa*, in their original places, as F and Q. They dropped, however, *San* and all the aspirated consonants (Θ, Φ, Ψ),¹ and double letters (Υ), except *Xi* which, in its Chalkidian form X, was introduced about the sixth century B.C., and

¹ Hence we get the rule that, in writing Latin, "we must use the letters Y, Z, and the compounds CH, TH, PH in words borrowed from the Greek, and in no others" (Peile, *Introd.*, chap. i.).

put at the end of the Alphabet. At a later period it was followed by Y and Z, which were introduced in Cicero's time to transcribe Υ and Ζ in words borrowed from the Greek; the latter, indeed, had previously been used in Latin, but had early been allowed to fall into disuse. The long vowels H and Ω were also omitted, and the symbol of the former was now confined to its consonantal use as the aspirate.¹ The semi-consonants moreover had their consonantal and vowel uses distinguished by the adoption of distinct symbols, I and U to denote the vowel sounds, J and V the consonantal. Finally the letter G was differentiated from C. The history of this last change is a curious one. Originally C, as the representative of the Greek Γ, was pronounced by the Romans just as our hard G, *e.g.* *Caius* was pronounced *Gaius*: the sharper sound of our C was represented by K. At an early period, however, K fell into disuse, except in a few words such as *Kæso* and *kalendæ*, and for a period the sound seems to have been practically lost. Between 300 and 200 B.C., however, the K sound revived and so C was differentiated into C (= K), and G (= Γ). The change is attributed to Spurius Carvilius, who opened the first school of grammar and writing at Rome. The new letter G was placed in the room of Z, which, as was said above, had early fallen out of use.

We are also told that the Emperor Claudius tried to introduce three other symbols, but without success, viz:—

Ɑ, to denote the consonantal sound of V.

Ɱ = *ps*: this was called *antisigma*.

Ɐ, to denote the vowel between E and U in sound.

The ENGLISH Alphabet is merely the Latin one with the addition of W; the common symbol, however, for which

¹ The 'rough breathing' (') in Greek is really a trace of the consonantal use of the letter H. This symbol had, in fact, a consonantal as well as a vowel use. In the former capacity it came to be written Ɱ, then Ɑ, and lastly '. The symbol for the 'smooth breathing' (') was probably formed by analogy.

sound was not introduced till after the Norman Conquest. Prior to that date its place had been filled by the Runic *wên* (𐌿). Another Runic letter, *thorn* (þ), to denote the sound of *th*, remained in use till the end of the fifteenth century A.D., and even now a trace of it survives in *y^e* and *y^o*, to represent *the* and *that*.¹

Note.—The Runic (or Mystic) Alphabet seems to come from the same Semitic source as the English one, probably through a Greek channel to the Scandinavian races. It consisted mainly of straight lines without curves, probably owing to the requirements of carving. The Latin letters do not seem to have ousted the Runic in England till about the sixth century A.D., when the latter, being identified with Paganism, fell into disuse.

Such is the history of our alphabet, but wonderful though it be, we should never forget that compared with an ideal standard most, if not all, of such systems are seriously defective. If, for instance, the English Alphabet were perfect, we should find every simple sound denoted by a distinct symbol, and no sound represented by more than one symbol. When these canons, however, are put into application it has to be pronounced

- i. defective, inasmuch as it has now no symbol to denote the sound *th*, and can only distinguish long from short vowels by artificial devices, such as doubling a consonant to shew that the preceding vowel is short, or adding a final *e* to denote that it is long. Compare, for instance, the words, *bit*, *bite*, and *bitter*.
- ii. redundant, since C, Q, and X are unnecessary.
- iii. inconsistent, for
 - (a) the same combination of letters is not always pronounced in the same way, e.g. *ough*, in such words as — *plough*, *cough*, *rough*, etc.

¹ The sound *th* is also denoted in early English by the symbol *ð* or *D*, both modified forms of the Roman *d*, *D*.

- (b) different combinations of letters are pronounced similarly, *e.g.*, *O*, *oh*, *beau*, *owe*, *boat*, etc.

It must not be supposed, however, that the English alphabet is singular in this respect. The Romans, for instance, were so conscious of the deficiencies of their own system that we find among them at least three different methods employed to denote a long vowel, viz. :—

1. Doubling the vowel—a method that prevails in the inscriptions from 130 to 75 B.C.
2. Placing an accent over it—a custom in vogue subsequent to the consulship of Cicero.
3. Writing the vowel 'I' taller than the other letters. Sometimes, indeed, before the time of Sulla, *ī* was represented by the diphthong *ei*.

In fact, it is exceedingly improbable that any existing system can put forward a valid claim to be considered absolutely perfect, and hence it should always be borne in mind that the written characters are no sure criterion of the wealth or poverty of sounds in a language. In dead tongues too, such as Greek (or at any rate Ancient Greek) and Latin, the problem is complicated by the great doubt which exists as to the manner in which the written characters were pronounced. We cannot enter upon the question of pronunciation here, but it will be found fully discussed in the authorities quoted at the end of this chapter.

Note.—It may be interesting to point out that some fairly reliable evidence as to the pronunciation of the Classical Languages may be derived from a few passages in which the cries of animals are attempted to be represented in writing. Thus we find that *πoĩ* (like our *perit*) denotes a bird's twitter (Aristoph. *Aves*, 227), and *κοί*, a pig's squeak (Arist. *Ach.* 780); that *ἄv ἄv* stands for a dog's bark (Aristoph. *Vesp.* 903); and that *βῆ* represents the bleating of a sheep (Aristoph. *Anecd. Bekk.* 86). Cicero (*de Div.* ii. 40), also tells us a tale about a man crying *Caunean* figs, and the word *Cauneas* being mistaken by superstitious soldiers for *cave ne eas*. Interjections, too, like *ioũ* (our *Ugh*) may give some clue.

Authorities—Taylor, *passim*.

Sayce, article in *Contemp. Review* (Dec. 1885).

Joly, part ii. chap. vi.

Tylor, chap. vii.

Papillon, chap. iii.

Wordsworth, chap. ii.

Roby, bk. i. chap. v.

Ferrar, chap. vi.

Encyclop. Brittan. s.v. *Alphabet*.

Earle, chap. i.

Peile, *Primer*, chap. viii.

Morris, chap. iv.

N.B.—As to Pronunciation, see Peile, *Introd.*, chap. viii. ;
Wordsworth, chap. iii. ; Roby, *Introd.*

APPENDIX TO CHAPTER III.

In illustration of the defective character of the English Alphabet it may be of service to reproduce here Mr. Morris' list of ELEMENTARY SOUNDS IN THE ENGLISH SPOKEN ALPHABET.

I. *Consonants.*

1. b.	9. m.	17. y.
2. d.	10. n.	18. z.
3. f.	11. p.	19. ch.
4. g.	12. r.	20. dh (bathe).
5. h.	13. s.	21. th (bath).
6. j.	14. t.	22. zh (azure).
7. k.	15. v.	23. sh (sure).
8. l.	16. w.	24. hw (what).

II. *Vowels.*

25. a in gnat.	32. e in meet.
26. a in pair, ware.	33. i in knit.
27. a fame.	34. o in not.
28. a father.	35. o in note.
29. a, all.	36. oo in fool, rule.
30. a, want.	37. oo in wood, put.
31. e in met.	38. u in nut.

III. *Diphthongs.*

- 39. *i* in high.
- 40. *i* in aye.
- 41. *oi* in boil.
- 42. *ow* in how, bound.
- 43. *ew* in mew.

CHAPTER IV.

THE ORIGIN OF LANGUAGE.

THE question now arises as to how the primitive elementary sounds, described in Chapter II., came, when combined into words, to have the meanings we now attribute to them. Why should the combination of the sounds D, O, G, come to denote a dog, or C, A, T, a cat? The question is one that has never yet received a satisfactory answer, and seems likely to remain insoluble. The great difficulty arises from the fact that we can obtain no adequate historical evidence on the subject. If we could once recover the primeval language spoken by our forefathers, it might be possible to approach within a measurable distance of the solution of the problem. If for instance we could trace back our name for 'dog' to the primitive form of the same, we might form some plausible hypothesis to account for the connection of the term with the animal, and the hypothesis would be strengthened or weakened according to the number of cases it was found to explain. In the present state of the Science of Language, however, such a method is quite impracticable. Even the primitive Indo-European tongue has not yet been definitely ascertained: much less does there seem any prospect of the recovery of the primeval language of the whole human race. All then that we can do is to state in outline the main theories on the subject, premising that they are mere hypotheses which as yet are quite insusceptible of any historical proof.

These theories may be reduced to three, viz. :—

- (i.) The *Onomatopœic* theory, *i.e.* that all languages

arose from the attempts of man to imitate the cries of other animals, barking when he wanted to represent a dog, miauling when he wished to denote a cat ; hence this has been described as the "Bow-wow" theory.

Against it, however, it has been urged with considerable force,

1. that it is utterly inadequate to explain all the facts.
 2. that it is derogatory to man's dignity to suppose him to have merely copied brutes.
 3. that if the hypothesis were true, particular terms would be prior to general ones, whereas as a matter of fact the simplest roots are found to express the most general conceptions.
- (ii.) The *Interjectional* (or "Pooh-pooh") theory, *i.e.* that language arose from the spontaneous exclamations of joy, pain, surprise, &c., common to all men and in a greater or less degree to brutes also.

This theory, however, is open to much the same objections as the former, and Professor Whitney points out that natural expressions, such as cries and groans, indicate feeling and feeling only : no evidence has ever been adduced to show that there is such a thing as the natural expression of a conception, or judgment, or cognition, "it is where expression quits its emotional natural basis and turns to intellectual uses that the history of language begins." This is what is meant by Horne Tooke's celebrated dictum—"the dominion of speech is erected on the downfall of interjections."

- (iii.) The theory of *Divine Creation*, *i.e.* that not only a faculty of speech, but also the actual words and

details of language were divinely implanted in man. Professor Max Müller's view seems a modification of this. He holds that roots, being the expression of general ideas, are "phonetic types" due to a divinely implanted faculty of giving more articulate expression to the rational conceptions of the mind : these types he considers to have been almost infinite originally, but to have been reduced by "natural selection."

The view most generally accepted at present¹ is apparently a combination of all of these theories, viz., that man is naturally endowed with a faculty of speech, but that language itself is purely conventional, existing, as Aristotle would say, *νόμος οὐ φύσει*, and springing up merely for the purpose of communication, that which offered the most feasible means of arriving at a mutual understanding being soonest turned to account. Thus the positively earliest speech would be the reproduction, with intent to signify something, of the natural tones and cries ; this being almost immediately combined with imitative or onomatopœic utterance, the range of imitation being gradually extended, especially figuratively or by analogy : when, however, it became easier to effect communication by another method, viz., the differentiation and new application of already existent signs, the primitive method (onomatopœa) went into comparative disuse.

Authorities—Max Müller, series i. lect. xi.

Whitney, chap. xiv.

Peile, *Primer*, chap. viii.

Sayce, vol. ii. chap. viii.

Papillon, chap. i.

Farrar, *Chapters*, *passim*.

¹ Whitney, "Life and Growth of Language," chap. xiv.

CHAPTER V.

GENEALOGICAL CLASSIFICATION OF LANGUAGES.

SINCE it has as yet been found impracticable to recover the primitive tongue of mankind, all that can be done is to classify languages according to their apparent affinities, and then examine the different classes separately.

By comparing, then, languages according to their *vocabularies* and *grammatical structure* it has been found possible to divide them genealogically, so to speak, into what are called FAMILIES OF SPEECH, viz :—

- i. The SEMITIC family, embracing, roughly speaking, the descendants of Shem, whence its name. All Semitic tongues are remarkable for the fact that their roots are *triliteral*, i.e. they consist of three consonants which remain unchanged in all relations, the only mode of inflection being by the internal change of the vowels.¹ The main subdivisions of the family are :—

1. Canaanite, including Hebrew, Samaritan, Phœnician, and Aramaic, a dialect (consisting mainly of Syriac and Chaldee) which is used in several of the Apocryphal Books, and also that which was employed by Christ, e.g. *Talitha cumi*.
2. Arabic, including also Abyssinian and Ethiopian.
3. Assyrian and Babylonian.

¹ e.g. *q-t-l* is a root meaning “killing ;” *qatala* means “he killed ;” *qutila*, “he was killed,” &c.

ii. The INDO-EUROPEAN family, also known by the names *Aryan*, *Indo-Germanic*, *Sanskritic*, *Japhetic*, *Mediterranean*, and *Caucasian*. It is subdivided into—

1. Indic, viz. :—

(a.) Dead dialects, such as Sanskrit (the language of the *Vedas*, the sacred books of the Hindus), Prakrit (a provincial corruption of pure Sanskrit), and Pali (the Sacred Prakrit dialect of Buddhism).

(b.) Living Hindu dialects.

(c.) The Gipsy dialect.

2. Iranic (or 'Eranian'), viz. :—

(a.) Zend, *i.e.* the old Persian of the cuneiform inscriptions and of the *Zend Avesta* (the Zoroastrian Bible preserved by the Parsis of Western India).

(b.) Modern Persian.

(c.) Armenian.

3. Keltic, viz. :—

(a.) Kymric, *i.e.* old Cornish, Welsh, and Armorican (of Brittany).

(b.) Gadhelic, *i.e.* Gaelic, Manx, and Erse (old Irish).

4. Græco-Latin, viz. :—

(a.) Greek, *i.e.* :—

(a.) The old Hellenic dialects such as Doric, Ionic, and Aeolic.

(β.) Modern Greek, or "Romaic."

(b.) Italic, *i.e.* :—

(a.) Old Italian, such as Latin, Oscan, and Umbrian.

(β.) Romance dialects, such as Italian,

French,¹ Spanish, Portuguese, Wallachian, and Romansch (of the Grisons and Engadine).

5. Teutonic, viz :—

(a.) High German, *i.e.* that spoken in the highlands of the interior, and practically equivalent to modern German.

(b.) Low German, *i.e.* that spoken on the lowlands of the coast, and so including Dutch, Flemish, and English, and also Gothic.

(c.) Scandinavian, *i.e.* Norse, Swedish, Danish, and Icelandic.

6. Slavonic, viz., Russian, Polish, Bohemian, Servian, and Bulgarian.

7. Lettic,² viz., Old Prussian (extinct for 200 years) and Lithuanian, spoken in some of the Baltic provinces of Russia and Prussia.

iii. The TURANIAN (or *Allophylian* or *Sporadic*) family. This, however, has not been sufficiently investigated to be properly classed as a 'family' at all, the mutual connection of the languages comprised under it being very dubious. It serves, however, as a convenient class to which to refer all such dialects as do not fall within the Semitic or Indo-European families. The chief of these are :—

1. Scythian (or 'Ural Altaic'), including the

¹ French was divided into—

1. *langue d'oïl*, spoken in the North ;

2. *langue d'oc*, or Provençal.

These derived their names from the pronunciation of *oui*, which, according to Farrar, was derived in the North from *hoc illud*, in the South from *hoc* alone.

² Many authorities now class Slavonic and Lettic together.

- dialects of the Mongols, Huns, Turks, Finns, Lapps, &c.
2. Chinese, with which possibly are connected the dialects of Farther India, *e.g.* Annamese, Siamese, Burmese, Tibetan.
 3. Japanese.
 4. Malay-Polynesian, subdivided into—
 - (a.) Malayan, *i.e.* “dialects of great islands nearest Asia, and Philippine and Ladrone groups.”
 - (b.) Polynesian, *i.e.* dialects of “most of the smaller groups, with New Zealand and Madagascar.”
 - (c.) Melanesian, *i.e.*, dialects of “Fijian and other archipelagos off the north-eastern corner of Australia.”
 5. Australian.
 6. Dravidian, or S. Hindustan, especially Tamil, Telugu, Canarese, and Malabar.
 7. Caucasian, *i.e.* Georgian, Circassian, &c.
 8. South African.
 9. Basque, spoken in north-east Spain, and apparently akin to the American dialects.

Authorities—Whitney, chaps. ix., x., xii.

Farrar, *Families*, *passim*.

Tylor, chap. vi.

Morris, chap. i.

Papillon, chap. ii.

Max Müller, series i. lects. v. viii.

Peile, *Primer*, chap. iii.

CHAPTER VI.

THE INDO-EUROPEAN FAMILY.

OF the three families of speech mentioned in the last chapter, the second—the Indo-European—has had most attention paid to it as being the most familiar and the most accessible, and for our present purposes it is the only one that requires examination.

Indo-European was apparently the language spoken by a tribe living on the northern slopes of the Himalayas, though there is a theory, which recently has found considerable favour among scholars, that their original abode was in Denmark. In any case, from causes unknown to us, possibly merely owing to the natural increase of population, they cast off swarm after swarm of emigrants who successively populated the greater part of Europe and a considerable portion of Asia. We can gather something from Comparative Mythology as to the religion and imagination of this primitive race, and Comparative Philology also gives us some information as to their culture, the order of their migrations, and the original language which they employed, and some law, or rather fragments of law, as to the modifications of the original sounds in the different parties of emigrants.

§ 1. First, then, as to their CULTURE. Our evidence for this mainly depends on examination of those words which are found to be common to all the Indo-European tongues : that is to say, if we find that the same root bears the same meaning in all or most of these languages we infer that it was used in a similar sense by the parent race before the separation, and consequently that the custom or habit it de-

notes was in existence prior to that period. By following out such a line of argument we learn that the state of civilization among the Indo-Europeans was considerably advanced. They were no longer a wandering tribe, but had reached the agricultural stage with a system of land tenure resembling that of the "Mark"; that is to say, the clans in which they dwelt—for the ties of kindred seem to have been strong—held each their pasturage and other lands as common property, dividing at any rate the arable portion among their members from time to time: each individual, however, possessed as his private property his house and courtyard, his goods and cattle. The government seems to have been in the hands of a King and a Council of Elders; the King having a special residence and domain: there were, moreover, regular laws, penalties and judges, and even a system of bail. Family relations were clearly defined and monogamy seems to have been the practice: slavery did not exist, but there were free labourers who worked for hire. Religion consisted in the worship of the powers of nature, with *Jupiter* at their head; but superstition seems to have been rife, for we hear of ghosts, and witchcraft, and evil spirits (typified by a snake), and of auguries drawn from birds, and of the use of charms to cure diseases (among which tetters and consumption are recorded): we hear, too, of a sense of sin which only penance could appease. For dwellings they had houses of wood, with a door and a thatched roof. Their dress was a tunic, a coat, and sandals, the materials being mainly leather and wool; the leather was tanned, the wool woven: linen also was not unknown. Their wealth lay in cattle: they had oxen and horses, sheep and goats, and moreover pigs and dogs, and geese and bees. They drank mead made from honey, and milk, and cooked their food: apples also they ate and a kind of black broth: salt too they used. They cultivated barley and spelt, making use of a rude plough: hay they cut with a sickle: grain was ground in

mills and baked for bread : the straw was stored up and a few garden herbs were grown. Hunting formed their main recreation : of wild animals we hear of bears and wolves, and otters, and hares, and beavers, and also of ducks and quails, and mice, and shell-fish such as crabs and mussels. Their chief weapons were the axe, the sword, and the bow ; but most of their implements were made of stone, though gold and silver and bronze were known. Smiths also are mentioned. Of arts we learn little, though germs of painting and music seem to have existed, and baked pottery was known. Decimal numerals appear to have been used, at any rate up to 100. With boats too they were acquainted. Time was measured by the moon, and divided into the seasons of spring, summer, and winter. Thus much, at any rate, it seems possible to gather as to the culture of the Indo-Europeans, and our information is likely to be progressively increased according as the cognate dialects are more closely investigated.

§ 2. The second point on which, as we mentioned above, Philology supplies us with evidence—the ORDER OF THE DIFFERENT MIGRATIONS from the parent stock—depends on a similar line of argument, namely, a comparison of the different tongues, those showing the greatest mutual affinity being regarded as clinging together longest. Schleicher, whose table is copied by most authorities on this subject, thinks that the North European branch was the first to leave the original home, subsequently itself splitting into the Teutonic and Slavonic branches. The next swarm to be cast off would be that which spread over the south of Europe, and whose dialects were afterwards known as Keltic, Italian, and Greek. The Asiatic branch would thus be the last to leave the primitive Indo-European abode. Professor Whitney, indeed, thinks that its departure should not be placed much earlier than 2,000 B.C., and that it did not split into the Indic and Iranic dialects till just before the historic period.

§ 3. We now come to the third point, with respect to

which Comparative Philology gives us information, viz., the original INDO-EUROPEAN LANGUAGE spoken by the race before the separation. By comparing the different dialects it has been discovered that the parent tongue possessed the following sounds :—

Consonants : K, T, P, G, D, B, GH, DH, BH, Y, S, V, N, M, R, and possibly L.

Vowels : A, I, U ; to each of which A had been prefixed, giving thus also \bar{A} , AI, AU. Schleicher believes that this process had been again repeated, and so would add \bar{A} , \bar{AI} , \bar{AU} .

These sounds may be tabulated thus :—

	CONSONANTS.						VOWELS.		
	Momentary.			Continuous.					
	Tenues.	Media.	Aspirates.	Nasals.	Spirants.	Trills.			
Gutturals .	K	G	GH	—	—	—	A	\bar{a}	$\bar{\bar{a}}$
Palatals . .	—	—	—	—	Y	—	I	ai	$\bar{a}i$
Dentals . .	T	D	DH	N	S	R (L)	—	—	—
Labials . .	P	B	BH	M	V	—	U	au	$\bar{a}u$

It is from a combination of these sounds that the roots are formed from which springs the whole vocabulary of the Indo-European tongues. It is true that, as yet, the parent speech of the race cannot be said to have been accurately ascertained, but, as will be seen later when we come to deal with the subject of inflections, attempts have been made to reproduce it with a considerable degree of plausibility, if not of absolute success.

§ 4. It may be objected, however, that words appear in widely different forms in different dialects, and this brings us to our fourth point, the LAWS OF DIALECTIC CHANGE that have been discovered regulating the modifications of sounds in different languages.

The most important of these is the Law of Consonantal Transition, discovered by Jacob Grimm, and so usually named *Grimm's Law*. This law, for our purposes, may be stated thus :—

An aspirate in the classical languages (*i.e.* Greek and

Latin) is represented by a sonant in the Low German dialects, and a surd in Old High German : a sonant in the classical tongues is represented by a surd in Low German, and an aspirate in Old High German ; and a surd in the classical tongues by an aspirate in Low German and a sonant in Old High German.

The following Table exhibits the Law in a form possibly easier to remember :—

Sanskrit, Greek, and Latin.	Low German, e.g. English.	Old High German.
A.	S.	H.
S.	H.	A.
H.	A.	S.

[A = aspirates such as χ, θ, φ.

S = soft letters or sonants, e.g. γ, δ, β.

H = hard letters or surds, e.g. κ, τ, π.]

Thus *φράτηρ* in Greek is represented by “brother” in English and “*pruoder*,” in Old High German. *τρεις* (tres) by “three” and “*dreī*”: *Θυγάτηρ* by “daughter” and “*tochter*”: *ἐγώ* (‘ego’) by “I” (= “ic”) and “*Ich*.”¹

EXAMPLES OF GRIMM’S LAW.

Greek.	Latin.	English.	Old High German.
χῆν.	(h)anser.	goose.	kans (modern gans).
θήρ.	fera.	deer.	tior (modern thier).
φηγός.	fagus.	beech.	puoche (buche).
γένος.	genus.	kin.	chunni (cf. kind).
δύο.	duo.	two.	zuei (zwei).
κάναβις.	—	hemph.	hanf.
καρδία.	cor(d).	heart.	herza (herz).
τρίς.	tris.	three.	dri (drei).
πούς.	pes.	foot.	fuoz (fuss).

(PEILE, *Introd.*, p. 166.)

¹ The following Table (adapted from Ferrar) may be useful :—

Greek	χ.	θ.	φ.	γ.	δ.	β.	κ.	τ.	π.
Latin	h. f. g.	f. d. b.	f. b.	g.	d.	b.	c. q.	t.	p.
Gothic	g.	d.	b.	k.	t.	p.	h. g.	th. d.	f. b.
O. H. G.	k.	t.	p.	ch.	z. sz.	f. pf.	h. g.	d.	f. v. b.

Most apparent exceptions to the law when examined will be found to fall under one of the following heads :—

- (a.) Words borrowed directly by one language from another, *e.g.* *chord* from *chorda*, *chorus* from *χορός*.
- (b.) Onomatopœic words, *i.e.* such as are specially designed to imitate sounds, *e.g.* *clank* and *κλαγγή*, *hoopoe* and *ἑποψ*, *grunnio* and *grunt*.
- (c.) Idiosyncrasies of particular tongues—thus Greek refuses to admit two aspirates into the same syllable, while Latin has no aspirated consonants at all : thus we get Latin *frater* by the side of English *brother*.

Sometimes, too, a consonant immediately preceding the letter to be affected may preserve it from change : this is especially the case in the combinations *sk*, *sp*, *st* : thus we find *sky* by the side of *σκιά*, *spit* and *spuo*, *cut* and *scindo*, etc.

Changes of sounds are due mainly to two principles, *viz.* :—

- (i.) *Dynamic change*, *i.e.* the voluntary alteration of a word to express a difference of meaning. Various methods are employed, *e.g.* :—

1. Reduplication, *e.g.* *me-mo-ria*, *πίπ(ε)τω*, *μαρμαρί-ειν*.
2. Vowel Modification, *e.g.* from the root *λιπ* we get *λείπ-ω* and *λέ-λοιπ-α*, from *παθ* we get *πέ-πονθ-α* and *πένθ-ος*. Cf. *dīc* and *dīc-o*, *men-s* and *mon-eo*.
3. Nasalization, *e.g.* *tund-o* from *tud* (cf. *tu-tud-i*), *λαμβ-άν-ω* from *λαβ* (cf. *ἔ-λαβ-ον*).

- (ii.) *Phonetic change*, *i.e.* the involuntary alteration of a word through laziness of pronunciation. This shows itself in different ways, *viz.* :—

1. Substitution of a weaker for a stronger sound, *e.g.* the Indo-European third person plural in the Active Voice of verbs ends (as

- we shall see) in ANT1; Greek weakens this to οντι (= ονσι), Latin still further to *unt*.
2. Loss of original sounds, e.g. $\pi\iota\pi(\epsilon)\tau\omega$, *quæ(s)i)ter*, *vinc(u)lum*, (F)ρήγνομι (cf. *frango*), *po(s)no*.
 3. Assimilation, i.e. the approximation of neighbouring sounds to one another, e.g. ὄμμα = ὄπ-μα, *puella* = *puer-u-la*, *vellem* = *vel-sem*, $\pi\rho\acute{\upsilon}\sigma\sigma\omega$ = $\pi\rho\alpha\gamma\gamma\omega$.
 4. Dissimilation, i.e. the effort to avoid the concurrence of two similar sounds, e.g. *claud-trum* becomes *claus-trum*, $\theta\iota\text{-}\theta\eta\mu\iota$ becomes $\tau\acute{\iota}\text{-}\theta\eta\mu\iota$, $\tau\upsilon\phi\theta\eta\text{-}\theta\iota$ becomes $\tau\acute{\upsilon}\phi\theta\eta\text{-}\tau\iota$, etc.

Authorities—(a.) As to Culture :

- Sayce, vol. ii. chap. vii.
 Mommsen, *Hist. Rom.*, vol. i. chap. ii.
 Peile, *Primer*, chap. iii.
 Max Müller, series i. lect. vi.

(b.) As to Migrations :

- Schleicher, vol. i. *Introd.*
 Papillon, chap. ii.
 Peile, *Introd.*, chap. ii.

(c.) As to Language :

- Schleicher, § 1, 2.
 Ferrar, chap. ii.
 Peile, *Introd.*, chap. iv.

(d.) As to Grimm's Law :

- Ferrar, chap. iii.
 Papillon, chap. iv.
 Peile, *Primer*, Appendix, *Introd.*, chap. v. note 1, and *passim*.
 Morris, chap. v.
 Max Müller, series ii. lect. v.
 Roby, bk. i. chap. iv.

CHAPTER VII.

MORPHOLOGICAL CLASSIFICATION OF LANGUAGES.

IN addition to the Genealogical Classification of Languages given in Chapter V., we find also what is called a Morphological Classification, that is to say, one based on the form assumed by the sentence, according as it is expressed in one word or in many. The reason why such stress is laid on the *sentence* is that, historically considered, language seems to have begun with sentences, not with single words; the first utterance of mankind, according to Professor Sayce, being polysyllabic, "a complex of sound and gesture, in which the sound had no meaning apart from the gesture." Languages then are classified morphologically as

- i. *Monosyllabic*, otherwise known as *Isolating* or *Radical*.
These dialects, of which Chinese is a good example, use roots for words without any modification; grammatical relations being expressed simply by the position of the words. "Thus in Chinese the prayer 'Our Father which art in heaven' assumes the form 'Being heaven me-another (= our) Father who'" (Farrar).
- ii. *Agglutinative* (or *Terminational*) in which two or more roots are joined together to form a word, and grammatical relations are denoted by suffixes (or prefixes). In these words the root forming the stem is unchanged and can be separated and used alone, but the suffixes are so modified as to be incapable of being used separately. Finn and Tatar are instances of this class.
- iii. *Inflectional* (such as Greek), *i.e.* languages in which

grammatical relations are expressed by suffixes, but in which both the stem and the suffix are modified.

Note.—A fourth class of Languages is sometimes recognized, called *Polysynthetic* (or *Holophrastic*). In these whole sentences are expressed by a single word, composed of roots so interlaced that none can be used singly. Such a tongue is Mexican. 'Polysynthesis' literally means the combination of many words into one; "holophrasis" is the reduction of whole sentences to words. Dr. Farrar gives as an instance the American word *nicalchihua* (= I build my house), in which neither *ní* 'I,' *cal* 'house,' or *chihua* 'make' can be employed as separate words.

Take for instance the two roots *I* (= *going*) and *MA* (= *I*). The monosyllabic stage would be expressed thus *I MA* or *MA I*: the agglutinative stage would be *IMI*: the inflectional stage *AIMI*.

It should not be supposed, however, that this classification can be regarded as a historical one. There is no proof whatever that every language passes successively through these stages, and it is by no means certain which class is really the best adapted to express thought. Inflections, for instance, which are so much lauded in this respect, are constantly tending to disappear, their places being taken by prepositions and auxiliary verbs; and this tendency from "synthesis" to "analysis" has been described as a sacrifice of beauty of form to precision of meaning. There seems little ground then for asserting that as a vehicle for the expression of thought the Inflectional Class is necessarily superior to its rivals.

Whatever be its merits or defects, however, it is with this class alone that we are here concerned, for the Greek and Latin languages are eminently inflectional.

Authorities—Sayce, vol. i. chap. v.

Max Müller, series i. lect. vi.

Farrar, *Famil.* p. 119; *Syntax*, pp. 1, 2.

Schleicher, *Introd.*

Papillon, chap. ii.

Wordsworth, chap. v.

Peile, *Primer*, chap. ii.

CHAPTER VIII.

INFLECTION.

AN Inflection may be described as a change in the form of a word, whether by internal alteration or by some external addition, to enable it to express grammatical relations.

These changes, however, are not arbitrary or meaningless. Each inflection, so far as we know, is a fragment or relic of a once separable word with a distinct sense of its own. This is clearly seen when we resolve a word into its component parts. Take, for instance, the word *ἔτυψαν*. This when analysed is found to be equivalent to

ε—the augment, a fragment of a root denoting remoteness.

τυπ—the stem.

σα—a fragment, according to one theory, of ‘*esa*,’ an old aorist of the root *ES* (= *being*).

ν—a relic of the third personal pronoun, or rather of a demonstrative filling its place.

So too *amabam* may be analysed into

ama—stem.

b = fu, a relic of the root *FU* seen in such words as *fui*, *φύω*, etc., and so denoting existence.

a—characteristic vowel of the past tense; its origin is still disputed.

m—relic of the first personal pronoun.

In a similar way almost every word in Greek or Latin or any other inflectional language might be broken up and on examination would be found to consist of one or more mutilated words affixed or prefixed, as the case might be, to

a stem. What then is a stem? To answer this question we must first define what we mean by a Root.

A ROOT is, roughly speaking, a word reduced to its lowest terms, or more precisely, "that combination of sounds which remains when a word is stripped of everything formative," or as Professor Sayce would prefer, "a phonetic type to which we can trace a group of words allied in sound and in sense."

Whether Roots ever existed by themselves or not is still a moot question among philologists; one of the main objections to such a language of roots being that it seems hard to attribute to them any other meaning than abstract conceptions, while savages are usually found deficient in general rather than particular terms. There is also a further question as to whether all Indo-European roots were originally monosyllabic. Many authorities confidently assert that they were; others do not consider the case proved.

Roots are divided into two classes, Predicative and Demonstrative.

- i. *Predicative Roots* (known also as *Verbal* or *Qualitative*) express ideas of action or state, *i.e.*, such acts and qualities as are apprehended by the senses. They form the basis of verbs and nouns.
- ii. *Demonstrative* (or *Pronominal*) *Roots*, signify position or direction with reference to the speaker, such as *here, there*, etc. Of these, which form but a comparatively small body, the chief are ΚΥΛ (*qui, τίς, πῶς* = *kṓs, πότερος* = *kóteros*), ΕΛ (*γέ, οὐχί*), ΥΛ (*ῥί, jam*), Ι (*ίς, οὐτοσί, iterum, ipse*), ΤΛ (*τό, οὗτος, αὐτός, iste*), ΔΑ (*ποδαπός, ὅδε, inde, quando*), ΔΗΑ (*ἔρθα, αἰθις, ubi*), ΣΑ (*ό, ἅπαξ*), ΝΑ, ΑΝ, ΑΝΑ (*νώ, νίν, nos, rñv*), ΡΑ (*ἀπό, ab*), ΒΗΑ (*nobis, ἄμφω*), ΥΑ (*τος, νετε*), ΜΑ (*me, μέ*).

Roots are also divided according to the number of letters of which they are composed into.

- i. *Primary or Primitive*, i.e. those consisting of
 1. One vowel, e.g. I.
 2. One vowel + one consonant, e.g. AD.
 3. One consonant + one vowel, e.g. DA.
- ii. *Secondary*—Consisting of consonant + vowel + consonant, e.g. TUD.
- iii. *Tertiary*—Consisting of
 1. Consonant + consonant + vowel, e.g. PLU.
 2. Vowel + consonant + consonant, e.g. ARD.
 3. Consonant + consonant + vowel + consonant, e.g. SPAS.
 4. Consonant + consonant + vowel + consonant + consonant, e.g. SPAND.

All these roots are monosyllabic, but there has been considerable controversy raised as to whether the Primary class alone ought not to be considered primitive, and the other classes as mere developments or modifications of it; the extra consonants in that case arising from

- (a.) The combination of two roots into one; or,
- (b.) Phonetic variation, due to want of clear articulation.

One theory indeed reduces all roots to vowels, which seems almost a “*reductio ad absurdum*” of the controversy.

Roots when fitted for the addition of an inflectional suffix are called STEMS.

Stems thus are formed in various ways, viz. :—

- i. By the mere root unchanged, e.g. $\upsilon\psi = \sigma\pi + \varsigma$.
- ii. By the root with its vowel modified, e.g. $\phi\lambda\acute{o}\xi = \phi\lambda\omicron\gamma + \varsigma$ from the root $\phi\lambda\epsilon\gamma$.
- iii. By the root reduplicated, e.g. $\delta\acute{\iota}\delta\omega\mu\iota$ from the root DA.
- iv. By the root with a suffix appended. These suffixes fall into two classes, viz. :—
 1. *Nominal Suffixes*, i.e. such as are used to form the stems of substantives and other parts

of speech formed from substantives, *e.g.* MENO (διδó-μενο-ς, *alu-mnu-s*, *ama-mini*), TAR (πα-τήρ, *ia-tró-ς*), ANT (ἰστάς = ἰστ-αντ-ς), etc.

2. *Verbal Suffixes*, *i.e.* those employed to form the stems of verbs, *e.g.* YA (τιμάω = τιμα-YA-μι : *amo* = *ama-ya-mi*), etc.

Note.—It seems almost certain that each of these suffixes had originally some definite meaning, but it is almost impossible to lay down any absolute rules to regulate their use. We get some glimmer of the original truth in the common Greek use of -μα to denote an act (*e.g.* πράγμα), -σις action (πράξις), and -τηρ an actor or agent (πρακτήρ). So, too, in verbs : -σκω is said to be inceptive, -σειω desiderative, -ow causative, etc.¹

Sometimes, indeed, two or more stems are combined to form a fresh one, *e.g.* λογο-γράφω-ς μητρο-κτόνο-ς, etc.

We have seen now the distinction between a Root and a Stem : it remains to consider the Inflectional terminations.

Now grammarians in discussing a language usually classify its words under certain heads—nouns, verbs, adverbs, prepositions, etc.—which they call *Parts of Speech*. These Parts of Speech, however, can really be reduced to two, nouns and verbs, or as the Greeks denominated them, ὀνόματα and ῥήματα : all the rest spring from these.

In fact, the distinction into nine Parts of Speech is quite a recent one. In Plato we find merely a distinction recognized between ὀνόματα and ῥήματα. Aristotle distinguished also particles (σύνδεσμοι). The Stoics and the Alexandrian grammarians recognized eight Parts of Speech. The Romans adopted this division, but omitted the article, and separated interjections from adverbs. English writers on grammar follow the Roman system, but restore the article. In any case, however, all the other Parts of Speech are mere de-

¹ Madvig, 'Latin Grammar,' § 174 *seq.*, endeavours to trace the meaning and use of such suffixes.

velopments of Nouns and Verbs, and attempts have been made to reduce all nouns to verbs, or verbs to nouns, but as yet without much success, for it has never yet been definitely settled which of the two classes is really the older. Some authorities maintain that "the faculty of language in man leads him first to give names (*ὀνόματα*) as signs expressive of conceptions, and then to form verbs (*ρήματα*) to explain what is predicated of the conceptions," and that thus verbs are merely "nouns with a pronominal affix":¹ while others urge that verbs must have been prior to nouns, since (a) their terminations are much more worn out than those of nouns; (b) there are no attempts to denote gender in verbs.

It will probably, however, be found most convenient if we follow the practice of the majority of grammars and treat of Nouns first.

Authorities—(a.) On Roots and Stems :

Whitney, chap. x.

Schleicher, § 80 *seq.*

Ferrar, chap. vii.

Max Müller, series i. lect. vii., and series ii. lect. ii.

Peile, *Primer*, chap. iv. *Introd.* chap. iii.

Papillon, chap. v.

Sayce, vol. ii. chap. vi.

(b.) On Parts of Speech :

Sayce, vol. i. p. 12.

Max Müller, series i. lect. iii.

Peile, *Primer*, chap. vi.

Papillon, chap. v.

¹ Professor Sayce even considers that the supposed pronominal person-endings of verbs are merely case-endings. Thus the *-m* (or *-μι*) of the first person singular would be simply an accusative termination. The third person singular (*e.g.* *τύπτει*) would be the stem of an abstract noun in *-is*. The third person plural (*e.g.* *τύπτουσι*) would be a participle. The first person plural (*e.g.* *τύπτομεν*) would be explained like infinitives in *-εν*, etc.

CHAPTER IX.

NOUNS.

THE inflections of Nouns fall into three classes, according as they denote Gender, Number, or Case. We will consider each separately.

GENDER.

§ 1. Gender, unhappily, as most students must have found out to their cost, is not the same as sex. The latter applies to living objects, the former only to words.

It seems probable, however, that originally distinctions of Gender sprung from distinctions of Sex. So far as living creatures were concerned, it would be the natural course to treat males as masculine, females as feminine. The difficulty only arises when a similar distinction has to be applied to inanimate things and abstract ideas. Why should *mensa* be feminine, and *mensis* masculine, *ναῦς* feminine, and *σπαράξ* masculine? The most plausible solution of the problem is that there has been a combination of two processes at work—Poetical Analogy and Grammatical Analogy. Poetical Analogy is the product of a vivid imagination. People regard certain qualities and actions as specially appropriate to men, and certain others as specially appropriate to women: the former they treat as masculine, the latter as feminine. Natural objects too, especially in an early stage of Society, have a tendency to become personified, the Sun is regarded as a male deity, the Moon as a female. In this way a considerable number of words get a kind of poetical

gender assigned to them. Then Grammatical Analogy comes into play, and words resembling in form those to which Genders have already been given, are assimilated to them in Gender likewise.

There is considerable doubt, however, as to whether the earliest distinction was between persons and things—thus throwing back the ‘Neuter’ gender to a remote period—or whether the Neuter Gender was not developed or invented subsequent to the distinction between Masculine and Feminine. In any case, from the general agreement of the whole Indo-European Family of languages, the distinction into *three* genders must have been prior to its earliest separation. It could not, however, have been original in it, for

(a.) Verbs do not exhibit any signs of Gender.

(b.) The words *father* and *mother* are found with the same suffix *TAR* in all Indo-European tongues.

The tendency now is to substitute the natural for the grammatical distinction—to drop Gender and revert to Sex.

The methods employed for distinguishing Gender in Greek and Latin were :—

- i. *A Change of Stem.*—Such stems as originally ended in *A*, had this vowel lengthened into *ā* to denote the feminine gender. Those stems which in Indo-European end in *A* form the first two declensions of the classical languages. Thus, those words in these two declensions whose stems end in a short vowel should be masculine, while those whose stems end in a long vowel should be feminine : *e.g.* ἀνθρωπῶ-ς, and *dominiŭ-s* are masculine, τιμή and χῶρā feminine. The exceptions, however, to this rule are numerous. We find, for instance, νῆσῶ-ς feminine, πολίτῃ-ς masculine, ὁδῶ-ς feminine, *poeta* (originally *poetā*, cf. ποιητής), masculine. Adjectives of three terminations distinguished the Masculine and Neuter from the Feminine by

changing the original *α* into *ο* (Latin *υ*) ; thus we get *ρέ-ο-ς* and *ρέ-ο-ν* but *ρέ-α*, *nov-u-s* and *nov-u-m* but *nov-a*.

- ii. *Special Suffixes*.—Masculine and Feminine nominatives took as a special suffix the letter *ς* ; Feminine forms, however, soon dropped this in the case of stems ending in

1. *ā*—*e.g.* *ρέ-α* not *ρέας*, *nov-a* not *novas*.

2. *ī*—New feminine suffixes afterwards seem to have sprung up, viz. :—

In Greek—*γα*, *e.g.* *ἡδεῖα* (= *ἡδεῖα*), and *δότειρα* (= *δοτεργα*), compared with *ἡδύς* (= *ἡδεῖς*), and *δοτήρ* (= *δοτερ-ς*).

ds—*e.g.* *προδότις* (= *προδοτι-ς*).

In Latin—*cs*, *e.g.* *victrix* (= *victori-cs*) *genetrix* (= *genetori-cs*).

Note.—Possibly *γα* also appears in Latin, *e.g.* in such words as *regina* (= *regant-γα*).

Neuter nominatives of *A*-stems (*i.e.* the first two declensions of Latin and Greek), take the mere stem of the word with the suffix *m* (or, in pronominal adjectives *d*), *e.g.* *bellu-m*, *illu-d*, *ἀγαθόν* (= *ἀγαθόν*, as no Greek word ends in *μ*). In all other stems the Neuter is represented by the stem standing alone, *e.g.* *γένος* (Genit. *γένε(σ)ος*, cf. *generis* = *genes-is*), *carmen*, *facile* (weakened from *facili*), *cor* (weakened from *cord*), etc.

In the Plural all neuters end in *-a*, which originally was *ā*, *e.g.* Verg. Aen. iii. 464, *dona dehinc auro graviā sectoque elephanto*, cf. also *posteā proptereā*, etc.

Note.—Sometimes in Latin we find the *s* thrusting itself even into the Neuter, *e.g.* *ingens prudens*, and perhaps *vulgus* and *virus*. In Greek this does not seem to be the case, though it is rather hard to explain the length of the vowels in *πᾶν* and *πῦρ*, without regarding it as an effort to compensate for the loss of a final consonant.

In Early English we find similar signs of Gender. Thus words ending in—

-*dom* were masculine, *e.g.* *freedom*.

-*ung* and -*nes* were feminine, *e.g.* *gretung* (greeting), *godnes* (goodness).

-*en* were usually neuter, *e.g.* *chick-en*.

In the fourteenth century, however, the genders of nouns were turned into marks of sex, males becoming masculine, females feminine, and inanimate things neuter. We distinguish female appellations from male now by :—

- (a.) using distinct words, *e.g.* *man* and *woman*, *horse* and *mare*.
- (b.) prefixing to the nouns the words *he*, *she*, *male*, *female*, *man*, *woman*, etc., *e.g.* *manservant*, *hegoat*.
- (c.) employing special suffixes, such as the Teutonic -*en* (*e.g.* *vixen*), and -*ster* (*e.g.* *spinster*), or the Romance -*ess* (*e.g.* *abbess*), -*ine* (*e.g.* *heroine*), -*a* (*e.g.* *donna*), -*trix* (*e.g.* *testatrix*).

Sometimes we find hybrids such as *song-str-ess*, in which Teutonic and Romance suffixes are combined.

Authorities—Ferrar, chap. viii. § 104.
 Wordsworth, chap. vi.
 Papillon, chap. vi. p. 106.
 Morris, chap. vii.

NUMBER.

§ 2. It is not necessary to go into any details with regard to the subject of Number here, as the whole question will recur when we come to consider the case-endings of nouns and the person-endings of verbs. A few facts, however, with regard to the origin and use of the Dual may conveniently be inserted here.

In the parent Indo-European tongue it appears that there were three Numbers—Singular, Dual, and Plural. These

are retained in Sanskrit, Greek, Slavonic, Lettic, and Gothic, but most other languages omit the Dual.

The origin of the Dual is doubtful, and various theories have been put forward to account for it, viz. :—

- i. That the Dual was an older form of the Plural arising from the ideas of the *ego* and the *non-ego*—the *I* and *you* of a dialogue. In support of this view has been adduced the fact that *nos* and *vos* in Latin are apparently connected, not with the plural forms *īmeīs* and *ūmeīs* in Greek, but with the duals *νώ* and *σφώ*. For the idea, moreover, of two things constituting plurality we may compare the well-known use of reduplication to form the plural, an expedient which is still employed by many savage tribes ; thus, in the Bushman dialect, *tu* means *mouth*, *tutu* *mouths*. On the other hand, it has been urged that the case-endings in Indo-European for the Dual seem to be mere modifications of those used for the Plural.
- ii. That the Dual arose from the fact that there are a number of things that are constantly spoken of in pairs, just as we use the phrase, *a pair of shoes*.
- iii. That it was invented for lovers and married people, as is said by Dr. Farrar to be the case in some Australian dialects.

Latin retains traces of a Dual in such words as *duo*, *ambo*, and possibly *octo*.

In English we have one dual word, viz. *twain*, and even that has been corrupted into the plural *twins*.

In any case, after the Plural was distinguished from it, the Dual became a mere luxury of language, and tended fast to disappear. In illustration of this we may adduce the facts that—

- (a.) Its cases are comparatively few, and have apparently diminished from a larger number ; thus Sanskrit has but three, and Greek only two.

- (b.) In Hellenistic Greek it is barely found ; in Aeolic and Modern Greek not at all.
- (c.) The syntactical concords are systematically violated with regard to it. Thus we find such passages as—
ἐγελασάτην ἄμφω βλέψαντες εἰς ἀλλήλους. (Plato, *Euthyd.*, 273 d.)
βασιλῆες πεπνυμένω ἄμφω. (Homer, *Od.*, xviii. 64.)

Authorities—Farrar, *Syntax*, p. 23.
 Ferrar, chap. viii. § 105, *seq.*
 Papillon, chap. vi. p. 105.
 Morris, chap. vii. § 90.

CASE.

§ 3. The number of Cases in Indo-European was 8, or, as some say, 9 ; Sanskrit preserves 8, Russian and Lithuanian 7, Latin 6, Greek 5, German 4. English once had 6, but now only retains traces of 3. French has lost them entirely, except in the Pronouns. The following table will show the connection between the Indo-European, Greek, Latin, and English case systems.

Indo-European.	Greek.	Latin.	English.
Nominative.	Nominative.	Nominative.	Nominative.
Vocative.	Vocative.	Vocative.	Vocative.
Accusative.	Accusative.	Accusative.	Accusative.
Genitive.	Genitive.	Genitive.	Genitive.
	+ Ablative.		
Ablative.	—	Ablative.	—
		+ Instrumental.	
		+ Locative.	
Instrumental.	—	—	Instrumental.
Locative.	—	—	—
Dative.	Dative.	Dative.	Dative.
	+ Instrumental.		
	+ Locative.		

(Some authorities add another Instrumental case.)

Note.—Greek and Latin show clear traces of the existence of a Locative case, and Greek also of an Instrumental. English

has lost its Vocative and Instrumental, and has merged its Accusative and Dative in an "Objective" case.

It should be observed also that in the *Dual* traces are not found of more than three case-endings, viz., 1. Nominative (+ Accusative + Vocative); 2. Genitive (+ Locative); 3. Dative (+ Instrumental + Ablative). In Greek, 2 and 3 are compressed into one. In the *Plural*, the Nominative and Vocative agree in form; so also do the Dative and Ablative.

About the relative age of the cases there is considerable dispute, but on the ground of (a) their necessity, (b) their existence in all Indo-European languages, (c) the fact that they never interchange in form with other cases, the Nominative, Accusative, and Vocative are thought to be older than the rest. Of these three the Vocative is often considered the oldest, as it most frequently consists of the simple stem of the word (e.g. *πρέσβυ*). The Genitive is regarded by some authorities as a weakened form of an adjective; for instance, *δήμου* may be merely an abbreviated form of *δημόσιος* through the intermediate stages *δημοσσω*, *δημοιο*, *δημοο*. A trace of this adjectival use may be perhaps seen in the Latin *cujus*, which is used both as a genitive of *qui* and as an adjective of three terminations (cf. Verg. Ecl., iii. 1, *cujum pecus*?).

As to the name 'Case' (*casus*), that, in its Greek form, *πτῶσις*, is as old as Aristotle, though he used it to denote any flexion whatsoever. It—and the word 'Declension'—implies a similar metaphor—was probably due to the fact that the Nominative was regarded as the normal or 'upright' form of the word (*casus rectus*), and the other cases as deflections from it, as is shown in the annexed diagram.



Hence it would be logically a contradiction in terms to call the Nominative a 'case' at all, for there is nothing for it to 'fall' from. It has been suggested, however, that the Stoics defended the application of the term *πτῶσις* to the Nominative on the ground that it denoted a "falling away from the mental conception into

the intelligible representation." The Vocative, too, is often refused the title of 'case' as being but the mere stem—"a gesture translated into sound."

The names given to the different cases also are very inadequate so far as the expression of their meaning is concerned, and some of them are wrong renderings of the Greek terms into Latin. Thus *genitive* is a mistranslation of γενική (= *casus generalis*, *i.e.* the case denoting the genus); *accusative*, too, is a mistranslation of αἰτιατική (the case of the object). The name *ablative* is said to have been invented or introduced by Julius Cæsar.

Note.—Professor Sayce thinks that the original use of the *accusative* was to express the object towards which the action of the verb travels; that the *genitive* stands to a noun as an object to a verb, *i.e.* that it defines its meaning and limits its application; that the *dative* denotes the reference of one object to another; the *ablative*, its removal from another; the *locative* its in-dwelling in another; and the *instrumental*, its employment through another. Thus the four cases last mentioned would originally be local in meaning.

If we turn now to the case inflections of the Greek and Latin languages, we are first struck with the apparent diversity that exists among them. There seems very little resemblance, so far as the ending is concerned, between χωρ-ῶν and *mensa-rum*, ἀνθρώπου and *domin-i*; and yet when we come to look into the matter we see that the seeming diversity is only superficial, and that the three declensions in Greek and the five in Latin are at the bottom all one and the same. This will be clearly seen from the annexed Diagram of Case-endings, in which we have distinguished the different Declensions according as their stems end in a vowel or a consonant. Thus the Greek 'vowel declension' includes all nouns whose stems end in A or O, that is to say, all that fall into what grammarians usually denominate the First and Second Declensions. The Greek 'consonantal declension' includes all the remaining nouns, *i.e.* those whose stems end in a consonant or diphthong, or the semi-consonants I

and U, thus being equivalent to the Third Declension of the Grammars. Latin may, on a similar principle, be divided into a vowel and a consonantal declension: the vowel declension containing all nouns whose stems end in A, E, O, the consonantal all whose stems end in consonants or in I or U. These respectively correspond to what grammarians call the First (A), Fifth (E), Second (O), Third (Conson. and I), and Fourth (U) Declensions. At first sight it may seem strange to speak of the Second Declension as the 'O-declension,' but old inscriptions tell us that *-us* is only a weakened form of the termination *-os*. The order in which the Latin declensions are placed in the diagram is especially to be observed, as it shows that there is a great resemblance between the A and the E declensions and the O and the U declensions—a fact which is quite lost sight of in the ordinary arrangement.

Note.—Professor Sayce says that the Fifth (or E) Declension is an etymological blunder for the First (A); for instance, the accusative *materiam* would tend to become *materiem*: this people would compare with (*e.g.*) *nubem*, and so form an analogous nominative *materies*. The alteration of the vowel of the accusative altered those also of the ablative and genitive; thus *materia* and *materiai* (later *materiæ*) became *materie* and *materiei*. This was extended to the genitive, dative, and accusative plural, *e.g.* *materiarum*, *materiabus*, and *materias* became *materierum*, *materiebus*, and *materies*; and then, owing to the accusative plural ending in *-es*, the nominative plural *materiæ* was assimilated in form to that of the Third Declension (*materies*).

Of the origin of the Indo-European terminations we know little or nothing, but the following theory has a certain amount of plausibility:—

Nom. Sing. *-S* is a fragment of a demonstrative root SA.

Plur. *-SASA* is SA reduplicated.

Dual. *-SĀS* is the plural SASA with the first vowel lengthened.

Voc. Sing.—the mere stem.

- Plur. and Dual—merged in Nominative.
- Acc. Sing. *-M* (or *-AM*) is apparently connected with a demonstrative root that appears in the Sanskrit *amu* (= *that*).
- Plur. *-MS* (or *-AMS*) is the singular + *S*, this *-S* being apparently a plural sign, and possibly adapted from the Nominative *SA-SA*.
- Gen. Sing. *-AS* is probably a demonstrative root.
-SYA perhaps = the two demonstrative roots *SA* + *YA*.
- Plur. *-ASAMS* = *AS* (*gen. sing.*) + *AM* (*dem. root*) + *S* (*plur.*).
- Loc. Sing. *-I* appears to be a relic of the demonstrative root *AM*, after passing through the intermediate stages *AN* and *IN*.
- Plur. *-SVASA* = *SVA* (*dem. root*) + *S* (*plur.*).
- Dat. Sing. *-AI* is either a strengthened form of the Locative *-I*, or a relic of the preposition *abhi*, meaning *towards*.
- Plur. *-BHYAMS* = *BHI* (*i.e. abhi*) + *AM* (*dem. root*) + *S* (*plur.*).
- Dual. *-BHYAMS* is plural with vowel lengthened.
- Abl. Sing. *-D* (or *-T*) seems connected with the demonstrative root *TA*.
- Plur.—merged in Dative.
- Instr. Sing. *-Ā* probably connects with the demonstrative root *A*.
-BHI seems connected with the root *BHU*, denoting *existence* (seen in *φύ-ω*, *fīo*, *futurus*, etc.), and so comes to denote ‘co-existence,’ and then ‘in company with.’
- Plur. *-BHIS* = Singular + *S* (*plur.*).

As to the Greek and Latin case inflections the diagram shows how intimate is the connection between the two languages and how manifestly they are derived from a common origin, and the more closely we investigate the subject the more clearly do we see that even the apparent exceptions are really instances of the application of the rule. The most convenient way will be to examine each case separately.

Nom. Sing.—The original type *S* is clearly to be seen in the Second ¹ Declension in Greek (*e.g.* ἄνθρωπο-ς) and the Second, Fourth, and Fifth Declensions in Latin (*e.g.* *dominu-s*, *gradu-s*, *dic-s*). We also find many instances of it in the Third Declension of each language (*e.g.* ἄλ-ς, γίγα(ντ)-ς, *sege(t)-s*, *mensi-s*). In the First Declension in Greek it is retained in such words as πολίτη-ς and νεανία-ς, and it seems a fair assumption to consider that even those words whose nominatives now end in vowels, in this declension (*e.g.* χώρα, τιμή), as also in the First Declension in Latin (*e.g.* *mensa*), originally terminated in *-s*; the main evidence for this consists in—

1. The comparison of cognate words in the two languages; thus we find *poeta* by the side of ποιετής-ς.
2. The survival of such archaic forms as *parricidas*.
3. The existence of double masculine forms, *e.g.* ἵπποτη-ς and ἵππότης.

Apparent exceptions to the use of *-s* as the nominative termination, such as ἄμαρ, φέρων, χθών, *homo*, *puer*, etc., are accounted for by the falling off of the *-s* through euphonic or other causes; thus

¹ The common names of the Declensions are here used, as being more likely to be familiar to the student.

these words would originally be *δαμαρτ-ς*, *φεροντ-ς*, *χθον-ς*, *homin-s*, *pueru-s*, etc. The lengthening of the preceding vowel, e.g. in *φέρ-ω-ν* and *χθ-ώ-ν* is to compensate for the omission of the final consonant.

Voc. Sing.—This requires little notice, as the original type—the mere stem—is generally employed, though often weakened in the case of vowel stems; thus we get *ἄνθρωπε*, *πόλιτα*, *domine*, from *ἄνθρωπ-ο-ς*, *πολίτ-η-ς*, *domin-u-s* (= *domin-o-s*). Elsewhere it is usually identical in form with the nominative, as in the plural.

Acc. Sing.—The original type *M* (mainly vowel stems) or *AM* (mainly consonantal) is retained throughout both languages. The weakness, however, of the final consonant is shown by the regular rule of Latin scansion, that syllables ending in *-m* are elided before words beginning with a vowel. Thus, too, in Greek we find that in consonantal stems the *-μ* usually vanishes entirely, and when retained, owing to the idiosyncrasy of the language, changes to *-ν*.

Gen. Sing.—Greek uses the original type *SYA* for the Second Declension (e.g. *ἀνθρώπου* = *ἀνθρωπο-σyo*), and for masculine nouns of the First Declension (e.g. *πολίτου* = *πολιτα-σyo*); for feminine nouns of the First Declension (e.g. *χώρα-ς*), and for the Third Declension (e.g. *σώματ-ος*), it employs the other original type *AS*. Latin uses *AS* for its Third and Fourth Declensions¹ (e.g. *consul-is*, *gradū-s* = *gradu-os*), and we find a trace of it in the First

¹ In the Fourth Declension we often find *senati* with apparently a genitive meaning, e.g. Sall. Cat. 36, *duobus senati decretis*; Cic. Phil. iii. 33, *senati potestate*. This form is usually explained as a Locative; or the declension may be assimilated to that of past participles in *-tus*.

Declension in the word *paterfamilia-s*. Genitives of the First Declension in *-ae* are explained in different ways, viz. :—

- (1) *ae* = *ai*, *i.e.* locative.
- (2) *ae* = *ai* = *ais* = *a-as*.
- (3) *ae* = *ai* = *a-y-as*.
- (4) *ae* = *ai* = *a-sya*.

Genitives in *-ai* are not infrequent, *e.g.* in Vergil we find *aquai*, *aulai*, *pictai*, *aurai*.

There is a similar controversy as to genitives of the Second Declension in *-i* (*e.g.* *domini*), viz. :—

- (1) *i* = *oi*, *i.e.* locative.
- (2) *i* = *oi* = *ois* = *o-as*.
- (3) *i* = *oi* = *o-y-as*.
- (4) *i* = *oi* = *o-sya*.

Genitives of the Fifth Declension¹ in *-ei* are explained in the same way, viz. :—

- (1) *e-i*, *i.e.* locative.
- (2) *ei* = *eis* = *e-as*.
- (3) *ei* = *e-y-as*.
- (4) *ei* = *e-sya*.

Loc. Sing.—The original type *I* was said above to be a relic of *AM*; this old form with the final consonant is thought to appear in such words as *ol-im*, *ill-im*, *de-in-de*, *ill-in-c*, etc., and perhaps in the preposition *ἐν* (*in*). In nouns we find the locative case-ending in such forms as *οἶκο-ι*, *Μεγαροῦ-ι*, *Μαραθῶν-ι*, *dom-i*, *militiæ* (= *militia-i*), *hum-i*, *rur-i*, *χαμα-ι*, *vesper-i*, *postr-i-die*, *quot-i-die*, *die* (= *die-i*) *crastin-i*,

¹ Four forms of the Gen. Sing. of the Fifth Declension are found in classical Latin, viz. :—

1. *es*, *e.g.* *dies* (Verg. G. i. 208) and *vabies* (Lucr. iv. 1083).
2. *ei*.
3. *e*, *e.g.* *fide* (Hor. C. 3, 7, 4).
4. *i*, *e.g.* *dii* (Verg. Aen. i. 636).

For other instances, see Roby, L. G., bk. ii. cap. vi. § 357.

her-i (= *hes-i*, cf. $\chi\theta\epsilon\iota\varsigma$), etc.; possibly also the genitive in such constructions as *fideus anim-i* (Verg. Aen. ii. 61) may originally have been a locative. We have just seen also that one explanation of the genitives in *-ae*, *-i* (= *oi*), and *-ei*, is to regard them as having once been locatives.

Note.—The rule in Latin syntax that “*Rest at a place*” is expressed in the case of names of places by using the genitive of nouns in the First or Second Declension and Singular Number, and the ablative of all others, really means that the old Locative termination in the cases mentioned coincides with the existing Genitive and Ablative terminations, e.g. *Romæ* is not the genitive, but the locative (= *Roma-i*); *Athenis* and *Carthagine* are not ablatives, but locatives (= *Athena-is* and *Carthagin-i*).

Dat. Sing.—The original *AI* is retained throughout the Greek First and Second Declensions, e.g. $\omicron\acute{\iota}\kappa\omega = \omicron\acute{\iota}\kappa\omicron-\alpha\iota$, $\chi\acute{\omega}\rho\alpha = \chi\omega\rho\alpha-\alpha\iota$; in the Third Declension the locative is used instead (e.g. $\sigma\acute{\omega}\mu\alpha\tau-\iota$). In Latin *AI* is regularly retained; thus:—

1st Decl. $ae = \bar{a}i = a-ai$.

2nd Decl. $o = \bar{o}i = o-oi$.

3rd Decl. $i = \bar{i} = i-ai$.¹

4th Decl. $ui = \bar{u}i = u-ai$.

5th Decl. $ei = \bar{e}i = e-ai$.²

Abl. Sing.—Greek does not possess an ablative, and in Latin the original *D* has been uniformly lost; but traces of it are thought to survive in Greek adverbs in $-\omega\varsigma$ (e.g. $\beta\acute{\omicron}\mu\omega-\varsigma$), the final consonant

¹ A dative in $-e$ in the Third Declension appears in legal formulæ such as *jure dicundo*, *lex opere faciundo*, *solvendo are alieno*, and perhaps in Verg. G. i. 430; AEn. x. 361, 681, 845 (Wordsworth).

² Of the *Dat. Sing.* of the Fifth Declension three forms are found, viz.:—

1. *ei*.

2. *e*, e.g. *perniciæ* (Liv. 5, 13, § 5), *fide* (Hor. Sat. i. 3, 95).

3. *i*, e.g. *pernicii* (Nep. 8, 2).

Cf. Roby, L. G., bk. ii. cap. vi. § 360.

being changed, since no Greek word can end in τ or $\tilde{\epsilon}$. Probably, too, a final d has disappeared at the end of many Latin adverbs, such as *supra*, *facillime*, *bene*, *cito*.

Instr. Sing.—Original \dot{A} may appear in words like $\acute{\alpha}\mu\text{-}\alpha$, $\tilde{\epsilon}\iota\chi\text{-}\alpha$, $\acute{\alpha}\lambda\lambda\alpha\chi\text{-}\tilde{\eta}$, etc. Original BHI is found in Homeric forms such as $\beta\acute{\eta}\eta\phi\epsilon$, and possibly too in Latin forms like *ti-bi*, *si-bi*, *mi-hi*, etc.

As to the *Dual*, the *Nom.* $\dot{A}S$ weakens to ϵ , which appears in the Greek Third Declension (e.g. $\sigma\acute{\omega}\mu\alpha\tau\text{-}\epsilon$), but in the other declensions coalesces with the stem vowel; thus $\chi\acute{\omega}\rho\alpha$ and $\acute{\alpha}\nu\theta\rho\acute{\omega}\pi\omega$ probably = $\chi\omega\rho\alpha\text{-}\epsilon$, $\acute{\alpha}\nu\theta\rho\omega\pi\omicron\text{-}\epsilon$. The *Dat.* $BHY\dot{A}MS$ appears as $\text{-}\iota\nu$ in the Greek First and Second Declensions, this $\text{-}\iota\nu$ standing for $\text{-}\phi\iota\nu$; thus $\chi\acute{\omega}\rho\alpha\iota\nu$ = $\chi\omega\rho\alpha\text{-}\phi\iota\nu$, $\acute{\alpha}\nu\theta\rho\acute{\omega}\pi\omicron\iota\nu$ = $\acute{\alpha}\nu\theta\rho\omega\pi\omicron\text{-}\phi\iota\nu$. The Third Declension follows the analogy of the Second; hence we get, not $\sigma\omega\mu\alpha\tau\iota\nu$ (i.e. $\sigma\omega\mu\alpha\tau\text{-}\phi\iota\nu$), but $\sigma\omega\mu\acute{\alpha}\tau\text{-}\omicron\text{-}\iota\nu$ (i.e. $\sigma\omega\mu\alpha\tau\text{-}\omicron\text{-}\phi\iota\nu$).

Nom. Plur.—Original $\dot{A}S$ (weakened to ES) is retained in the Third Declension in Greek, and the Third, Fourth, and Fifth Declensions in Latin, e.g. $\text{Ἑλλην-}\epsilon\varsigma$, *mensēs* (= *mensi-es*), *gradus* (= *gradu-es*), *diēs* (= *die-es*). The First and Second Greek Declensions make their *Nom. Plur.* in $\alpha\iota$ and $\omicron\iota$, which are thought to be equivalent to $\alpha\text{-}\alpha\epsilon$ (= $\alpha\text{-}\alpha\epsilon$) and $\omicron\text{-}\alpha\epsilon$ (= $\omicron\text{-}\alpha\epsilon$). The Latin First Declension in $\text{-}ae$ is similarly explained; thus *mensæ* = *mensai* = *mensa-is* = *mensa-as*.¹ The Latin Second Declension in $\text{-}i$ (= $\omicron\text{-}i$) appears from inscriptions to = $\omicron\text{-}es$ = $\omicron\text{-}as$.

Acc. Plur.—The original MS (or AMS) has dropped its first consonant in both Greek and Latin, but has

¹ A form of *Nom. Plur.* of First Decl. in $\text{-}as$ is read by Ritschl in Plaut. Trin. ii. iv. 138, *Nam fulguritæ sunt alternas arbores*.

left traces of it by uniformly lengthening the preceding vowel.

Gen. Plur.—Greek retains traces of the original *AM* in *ωv*. Latin genitives in *-um* are formed from original *AM*; those in *-rum* from original *SÂM*, the *s* and *r* interchanging as in *eram* which = *esam*, and *heri* which = *hesi*. Thus *deum* is not contracted from *deorum*, but a form parallel with it.

Loc. Plur.—The original *SVASA* is used to form the dative case in Greek; thus *χώραις* = *χωρα-σfi*, *ἀνθρώποις* = *ανθρωπο-σfi*, *σώμασι* = *σωματ-σfi*. It also forms the regular dative and ablative plural of Latin nouns of the First and Second Declensions, e.g. *mensis* = *mensa-is* = *mensa-sfi*, *dominis* = *domino-is* = *domino-sfi*.

Note.—Some authorities explain *χώραις* as = *χωραι-ς*, i.e. the locative singular with the plural sign (*s*) appended. Possibly the Latin datives might be explained in the same way.

Dat. Plur.—The original *BHYAMS* seems to be altogether lost in Greek. In Latin it forms the regular termination in the Third, Fourth, and Fifth Declensions (e.g. *consul-i-bus*, *gradu-bus*, *die-bus*), and is found occasionally in the First and Second (e.g. *dca-bus*, *duo-bus*). It has been suggested too that (e.g.) *equis* = *equo-is* = *equo-hios* = *equo-fios* = *equo-bhios*, but this appears improbable. The preceding *i* in Latin consonantal stems may be euphonic or due to the analogy of *-I*-stems; at any rate *bobus* (= *boz-bus*) seems to show an older form.¹

Instr. Plur.—The original *BHIS* is equivalent to *BHI* + *S*; thus Greek would form its instrumental plural

¹ *-būs* is often found in old Latin authors, and Vergil imitates them in Aen. iv. 64. Probably *-būs* = *bhyās* = *bhyāms*.

regularly by adding $-ε$ to its singular $φιν$; this $-ε$, however, vanished for euphonic reasons, and hence we find the instrumental plural virtually identical in form with the singular, *e.g.* $θεό-φιν$, $ναῦ-φιν$. In Latin no traces are found.

Authorities—Papillon, chap. v.

Wordsworth, chaps. vii. viii. ix. x.

Peile, *Primer*, chap. v. *Introd.* chap. iii. (note).

Sayce, vol. ii. p. 139, *seq.*

Morris, chap. vii. § 101.

§ 4. PRONOUNS require somewhat separate consideration, for, though on most points their declension coincides with that of Nouns, yet they have certain peculiarities of inflection of their own. It will be most convenient to divide them into those with Gender and those without, and to take the latter class first.

(i.) PRONOUNS WITHOUT GENDER.—These include the Reflexive and the Personal Pronouns, and their lack of gender is probably due to their antiquity.

Personal Pronouns seem originally to have expressed merely relations of position, *I* being “the man here,” *You* “the man there,” *He* “the man yonder;” the third person is expressed by a demonstrative in many if not most languages, *e.g.* Latin *hic* or *ille* (whence French *il*), Greek $οὗτος$ or $ἐκεῖνος$. *

Reflexive Pronouns not being strictly used as the subject of a principal sentence have no nominative case, though the Greek reflexive $οἶ$ apparently once, when it had a demonstrative meaning, possessed a nominative such as $ἴς$ (connected with *is*, $μίν$, $ρίν$, *it*, etc.).

The following table will best exhibit the peculiarities in the inflection of Pronouns without Gender :—

PRONOUNS WITHOUT GENDER.

		1st Personal.					and Personal.					
Cases.	Indo-European.	Greek.	Latin.	Indo-European.	Greek.	Latin.	Indo-European.	Greek.	Latin.	Indo-European.	Greek.	Latin.
S. Nom.	AGHAM or MA.	ἐγώ(ν).	ego.	TVA.	σὺ (Doric τὸ).	tu.	—	—	—	—	—	—
Acc	MA-M.	μέ or ἐ-μέ (the initial vowel being merely prosthetic).	me.	TVA-M.	σέ (τέ).	te.	SVA-M.	—	—	—	—	—
Gen.	—	μοῦ or ἐ-μοῦ (= εἰ με-σὺο). [†]	mis (?).	—	σοῦ (τέυ = τεί ε-σὺο).	tis (Plaut. Trim. 343).	—	—	—	—	—	—
Loc [‡]	MA-I.	μέ or ἐ-μέ.	mei.	TVA-I.	σά (τα).	tui.	SVA-I.	—	—	—	—	—
Dat.	MA-BHYAM.	Doric ἐμὸν (= εἰ με-σὺο).	mihi (= mi/ci = mi-bhici).	TVA-BHYAM.	Homer τέον (= τε-φῶν).	tibi.	SVA-BHYAM.	—	—	—	—	—
Abl.	MA-D.	—	me(d).	TVA-D.	—	te(d).	SVA-D.	—	—	—	—	—
Instr	—	—	—	—	—	—	—	—	—	—	—	—
D Nom. and Acc.	—	—	—	—	—	—	—	—	—	—	—	—
Gen. etc.	—	—	—	—	—	—	—	—	—	—	—	—
Nom.	MASMA, ASMA, or VASMA.	ἡμεῖς (= ασμενεις).	nos (perhaps = mos).	TVASMA.	ὑμεῖς (= τ/ασμενεις).	vos.	—	—	—	—	—	—
Acc.	ASMA-NS.	ἡμεῖς (= ασμενεις).	nos.	TVASMA-NS.	ὑμεῖς (= τ/ασμενεις).	vos.	—	—	—	—	—	—
Gen.	—	ἡμῶν.	nostrum (a possessive).	—	ὑμῶν.	vestrum (a possessive).	—	—	—	—	—	—
Loc.	ASMA-SVA.	Aeol. ἄμμεσιν.	—	TVASMA-SVA.	Aeol. ὑμμεσιν.	—	—	—	—	—	—	—
Dat. and Abl.	ASMA-BHYAMS.	ἡμῶν (= ασμα-φῶν).	nobis.	TVASMA-BHYAMS.	ὑμῶν (= τ/ασμα-φῶν).	vobis.	SVA-SVA.	—	—	—	—	—
Instr.	ASMA-BHIS.	—	—	TVASMA-BHIS.	—	—	SVA-BHYAMS.	—	—	—	—	—

From this table we see that the Pronominal Declension differs from that of Nouns in that—

1. The Vocative is entirely wanting.
2. The Dative Singular ends in *-BHYAM* instead of *-AI*.
3. The Nominative Plural is formed by the suffix *-SMA*, instead of *-SASA*, and then becomes the stem for the rest of the Plural.

Note.—The origin of the Greek *vōi* and of the Latin *nos* and *vos* is very uncertain.

(ii.) PRONOUNS WITH GENDER.—Under this head fall the semi-adjectival pronouns—relative, demonstrative, indefinite, distributive, etc.

In Greek these need not detain us long, for their declension follows that of nouns, except that the Nominative and Accusative Singular take for their neuter termination *o*. This *o* seems to be a relic of an original *od*, and so would correspond with the Latin *qui-d*, *illu-d*, *aliu-d*, etc. Thus *ὅ, τό, ἐκεῖνο, ἄλλο, τί*, etc., were once *ὄδ, τόδ, ἐκεῖνοδ, ἄλλοδ, τίδ*, but Greek not admitting a final *d* dropped the consonant.¹ In Latin these pronouns seem to have had the following terminations originally:—

S. Nom.	OS-, or O-I.	Ā, or A-I.	O-D.
Acc.	O-M.	A-M.	O-D.
Gen.	O-I-US.		
Loc.	O-I.		
Dat.	O-EI, or O-I-EI.		
Abl.	O-D.	A-D.	O-D.
Pl. Nom.	O-I-S.	A-I.	A-I, or Ā.
Acc.	O-S.	A-S.	A-I, or Ā.
Gen.	O-ROM.	A-ROM.	O-ROM.
Loc.	O-IS.		
Dat. and Abl.	O-BUS, or O-I-BUS.		

¹ This dental seems to appear in the English *what* as the neuter of *who*, as also in *that*.

Here we see the two characteristic peculiarities of this declension—the neuter termination in *-D*, and the intensive *I* thrust in irregularly, apparently to add emphasis.

The declension of some typical pronouns may make this clearer. Thus *ollos*, the older form of *ille* (cf. Verg. Aen. i. 254, *olli subridens*), was declined as follows:—

S. Nom.	ollo-s.	olla.	ollo-d.
Acc.	ollo-m.	olla-m.	ollo-d.
Gen.	ollo- <i>i</i> -us.		
Loc.	ollo- <i>i</i> (cf. <i>illi-c</i>).		
Dat.	ollo-ei.		
Abl.	ollo-d.	olla-d.	ollo-d.
Pl. Nom.	ollo- <i>i</i> .	olla- <i>i</i> .	ollā.
Acc.	ollo-s.	olla-s.	ollā.
Gen.	ollo-rum.	olla-rum.	ollo-rum.
Loc.	ollo-is.		
Dat.	} wanting.		
Abl.			

In a similar way would be declined *iste* (= *isto-s*), *alius*, and *ipse* (= *ipso-s*, possibly equivalent to *ipto-s*); the latter, however, making its neuter *ipsom*. The following also form their genitive and dative singular on the analogy of these pronouns, *unus*, *ullus* (= *unulus*), *solus*, *totus*, *alter*, *uter* (= *cuter*, cf. *πότερος* = *κότερος*), etc.

Is is somewhat irregularly declined, its stem sometimes being intensified by *i*, and before vowels usually changing to *e*, and sometimes to *eo*.

S. Nom.	i-s.	e-a.	i-d.
Acc.	eo-m.	ea-m.	i-d.
Gen.	e- <i>i</i> -us.		
Loc.	e-i.		
Dat.	e- <i>i</i> -ei and i-ei.		
Abl.	eo-d.	ea-d.	eo-d.
Pl. Nom.	i- <i>i</i> .	ea- <i>i</i> .	e-ā.
Acc.	eo-s.	ea-s.	e-ā.

Pl. Gen.	eo-rum.	ea-rum.	eo-rum.
Loc.	e-is and i-is.		
Dat. }	wanting.		
Abl. }			

I-dem (= *is-dem*) follows the same type.

Qui is declined as follows :—

S. Nom.	quo- <i>i</i> .	qua- <i>i</i> .	quo-d.
Acc.	quo-m.	qua-m.	quo-d.
Gen.	quo- <i>i</i> -us.		
Loc.	quo- <i>i</i> .		
Dat.	quo- <i>i</i> -ei.		
Abl.	quo-d.	qua-d.	quo-d.
Pl. Nom.	quo- <i>i</i> .	qua- <i>i</i> .	qua- <i>i</i> .
Acc.	quo-s.	qua-s.	qua- <i>i</i> .
Gen.	quo-rum.	qua-rum.	quo-rum.
Loc.	quo-is.		
Dat. }	quo-bus.		
Abl. }			

Like *Qui* are declined *Quis* (except that the Nom. Sing. is *quo-s*, *quā-i*, *quō-d*, or *quid*), and *Aliquis* (which follows *Quis*, except that Nom. Sing. Fem. is not increased by *i*, hence *aliqua*, as also in Neuter Plur. Nomin.).¹

Sometimes we find the stems emphasized by the addition of intensitive suffixes, *e.g.* the enclitics—

-*met*, appended to all cases of *Ego* and *Tu*, except to *Tu* itself, which takes -*te* (*e.g.* *Tute*, and also *Tu-temet*); also to certain cases of *Se* and *Suus*.

-*pte*, appended to the ablative singular of possessive pronouns (*e.g.* *suapte*).

-*ce*, often appended to demonstratives.

The declension of *Hic*² will serve as a good illustration of

¹ *Aliquæ* for the Feminine Nom. Sing. is found in Lucr. iv. 263; *quis* is often used for the feminine in Plautus (*e.g.* Aul. 168).

² *Hic* is usually long in scansion (cf. Juv. i. 161; Hor. Sat. i. 9, 50), but we find it short in Lucr. iv. 921; Verg. Aen. iv. 22, vi. 792. A

the last, and, moreover, has certain special peculiarities of inflection ; its stem is *Ho-* :—

S. Nom.	Ho-i-ce.	ha-i-ce.	ho-d-ce.
Acc.	ho-n-ce.	ha-n-ce.	ho-d-ce.
Gen.	ho- <i>i</i> -us, and ho- <i>i</i> -us-ce.		
Loc.	ho-i-ce.		
Dat.	ho-ei-ce.		
Abl.	ho-d-ce.	ha-d-ce.	ho-d-ce.
Pl. Nom.	ho- <i>i</i> -s.	ha- <i>i</i> , or ha- <i>i</i> -ce.	hā-ce, or ha- <i>i</i> -ce.
Acc.	ho-s.	ha-s.	hā-ce, or ha- <i>i</i> -ce.
Gen.	ho-rum.	ha-rum.	ho-rum.
Loc.	ho-is.		
Dat. }	ho- <i>i</i> -bus.		
Abl. }			

In a similar way would be declined the defective *illic* and *istic* (= *isto-i-ce*).

Authorities—Wordsworth, chaps. xii. xiii.

Ferrar, chap. xi.

Papillon, chap. vii.

§ 5. ADJECTIVES follow the declensions of Nouns, and so require no special consideration at our hands, the same terminations applying to both; thus in *σοφός* and *bonus* the masculine and neuter follow the Second Declension in Greek and Latin, while the feminine is declined according to the First; *ἀληθής* and *ingens* follow the system of the Third. Even apparent eccentricities such as *ἡδύς*, *ἡδεῖα*, *ἡδύ*, and *τετυφώς*, *τετυφυῖα*, *τετυφός*, are easily explained when analysed into *ἡδεF*, *ἡδεFyα*, *ἡδεF*, and *τετυφoτς*, *τετυφoτyα* (or *τετυφoσyα*), *τετυφoτ*. All, then, that we need notice here is the manner in which their DEGREES OF COMPARISON are formed. The suffixes employed for this purpose may be classified as follows :—

Nom. Plur. Femin. in *hac* appears in Verg. G. iii. 305 ; Aen. vii. 175 ; Lucr. vi. 456.

i. To denote the *Comparative* degree—

1. YANS. The origin of this suffix is doubtful, but it appears in—

(a) Greek, as *ιον*—the nominative termination *-ων* being equivalent to *-ιονς*. Thus *βελτίων* = *βελτ-ιονς*.

(b) Latin, as *-ιον*. This, with the nominative suffix *s*, became *ions*, which was gradually modified into *-iōs*, and then *-ior*; thus *melior* = *meliōs* = *mel-ιον-s*. The form in *-s* (*melios* or *melius*) was then kept for the neuter, but in old Latin we find such phrases as *senatus consultum prior*; *bellum Punicum posterior*, etc.

2. TARA. The origin of this also is disputed. It appears in—

(a) Greek, as *-τερο*, e.g. *σοφώ-τερος*.

(b) Latin, in such words as *dex-ter* (cf. *ἐξίός*), *ce-ter-i*, *al-ter* (connected with *alius*), *u-ter*, etc., though not in the technical “comparative” sense.

Sometimes both suffixes are found combined, e.g., *λαλ-ίσ-τερος*, *ἀφθον-έσ-τερος*, *min-is-ter*, *mag-is-ter*, *sin-is-ter*, *ci-ter-ior*, *dex-ter-ior*, etc.

ii. To denote the *Superlative* degree.

The suffixes employed for this purpose were *TA* and *MA*, which were used either separately, or in combination, or doubled, or combined with the comparative suffixes, viz. :—

TA. In numerals, e.g. *ἕκ-τος*, *sax-tus*, *πρῶ-τος*.

MA. e.g. *Pri-mu-s* (connected with *præ*), *summus* (= *sup-mu-s*), *septi-mu-s*, possibly ‘most,’ e.g. in *for-most*.

TATA. The Greek superlative ending *-τατο*, e.g. *σοφώ-τατος*.

MAMA. Apparently only in certain Irish words.

TAMA. e.g. *Op-timu-s*, *fini-timu-s*, *mari-timu-s*, possibly in superlatives like *facillimus* (= *facil-timu-s*), *miserimus* (= *miser-timu-s*), *maximus* (= *magi-tumu-s*), *proximus* (= *propic-timu-s*), etc.

MATA. Not found in Latin, but seen in such Greek words as *πύματος* and *ἐβδόματος*.

YANSTA. The Greek superlative ending *-ιστος*, e.g. *μέγιστος*, *βέλτιστος*.¹

YANSMA. Possibly in *min-imu-s* and *plur-imu-s*; perhaps, too, *facillimus* should be rather explained as = *facil-īs*(= *ius*)-*imu-s*.

YANSTAMA. e.g. *Soll-istimu-m* (Cic. Div. ii. 34, 72), *sin-istumu-s*; probably the Latin superlative termination *-issimus*; thus *felicissimus* = *felic-istimu-s*.

TARAMA. e.g. *Ex-tremu-s* (from *ex*).

In a similar way we might show that most apparent exceptions admit of easy explanation. Thus *minor* = *min-ior* (possibly connected with *με-ίων*); *major* = *mag-ior*; *magis* = *mag-ius*; *plus* = *ple-ios* (cf. *πλε-ίων*); *junior* = *juven-ior*; *pejor* = either *ped-ior* (connected with *pes*, *pessum*, etc., and so meaning *lower*), or *pep-ior* (connected with Sanskrit *pāpa*, meaning *bad*). Comparatives, too, like *benevol-entior*, are not irregular, but are formed, not from the reputed positives (*benevolus*), but from participles (*benevolens*). In many cases, indeed, the whole irregularity consists in the change of stem; thus *melior* is not properly the comparative degree of *bonus* but of some lost adjective whose root appears in the Greek *μάλα*. In like manner *optimus* is connected, not with its reputed positive, but with *ops*; *ἄριστος*, with the God *Arês*; *κράτιστος* with *κράτος*; *φέρτατος* with *φέρω*; *χείριστος* with *χείρ*, etc.

¹ The ordinary English superlative in *-st* or *-est* (e.g. *happi-est*) comes possibly from YANSTA. The comparative in *-r* or *-er* (e.g. *happi-er*) may be connected with a modification of TARA, seen in such words as *ἐν-εροι*, *inf-er-u-s*, *sup-er-u-s*.

Authorities—Ferrar, chap. ix.

Wordsworth, chap. xi.

Papillon, chap. vi. p. 132 *seq.*

Schleicher, § 104.

Morris, chap. viii. § 114.

§ 6. NUMERALS are usually classed with Adjectives, and in them, perhaps, more than in any other words, the mutual connection of the Indo-European languages is evident.

It is noteworthy that but few of these Numerals are regularly declined. Thus Sanskrit and Greek decline only the first four, Latin merely the first three. The reason probably is that these were the numerals most commonly employed. In fact, we are told that there are some languages which do not possess numerals beyond four, lumping everything else together in the general idea of “many.”

The Numerical Symbols seem in most cases to have been originally letters of the Alphabet. This is abundantly evident in Greek. The Etruscans, too, are said to have used letters for numbers by writing them from right to left ; so, too, the ancient Danes. The Latin numerals are combinations of the symbols i ii iii with the old Greek letters which the Romans had allowed to drop into disuse. Thus—

x came from \otimes , the old form of *theta*.

v was half of x.

L = \perp = ∇ , *i.e.* *chi*.

c = \odot , another form of *theta*, probably assimilated in shape to the first letter of *centum*.

M = \oplus = Φ , also assimilated to the first letter of *mille*. It is often written CIO.

D or IO was half of M (\oplus).

Note.—Dr. Taylor thinks that i ii iii were pictures of three fingers ; v of the whole hand, one stroke representing the thumb, the other the fingers massed together ; x was a picture of both hands together ; iv and vi of the hand minus or plus a finger ; so, too, ix and xi, etc. As to the other symbols, he agrees with the explanation given above. Dr. Taylor also shows (‘Alphabet,’ vol. ii. p. 263) that the Arabic

TABLE TO ILLUSTRATE THE CONNECTION OF THE NUMERALS IN THE FOLLOWING LANGUAGES.

Indo-European original.	Greek.	Latin.	French.	German.	Anglo-Saxon.	English.
1. I or AI.	$\epsilon\iota\varsigma = \text{probably } \sigma\epsilon\nu\epsilon\varsigma$ (from an I. E. SA).	unus, O. Lat. unus (from I).	un.	ein.	ân.	one.
2. DVA.	$\delta\upsilon\omicron (= \delta\upsilon\omicron)$.	duo (<i>bis</i> = divis).	deux.	zwei.	twa.	two.
3. TRL.	$\tau\rho\acute{\epsilon}\iota\varsigma$.	tres.	trois.	drei.	threo.	three.
4. KVATVAR.	$\tau\acute{\epsilon}\tau\tau\alpha\rho\epsilon (= \kappa\acute{\epsilon}\tau\tau\alpha\rho\epsilon)$.	quattuor (<i>i.e.</i> quattvor).	quatre.	vier.	fewer.	four.
5. KVANKVA.	$\pi\acute{\epsilon}\nu\tau\epsilon$.	quinque.	cing.	fünf.	fif.	five (a nasal being lost).
6. KSVAKS.	$\xi\acute{\epsilon}$.	six.	six.	sechs.	six.	six.
7. SAPTAM.	$\epsilon\pi\tau\acute{\alpha}$.	septem.	sept.	sieben.	seofon.	seven.
8. AKTAM.	$\acute{\omicron}\kappa\tau\acute{\omega}$.	octo.	huit.	acht.	eahht.	eight.
9. NAVAM.	$\epsilon\nu\acute{\eta}\epsilon\alpha$.	novem.	neuf.	neun.	nigon.	nine.
10. DAKAM.	$\acute{\epsilon}\kappa\alpha$.	decem.	dix.	zehn.	tyn.	ten.
11. AI-DAKAM.	$\delta\upsilon\delta\epsilon\kappa\alpha$.	un-decim.	onze.	elf.	endlufon.	eleven = possibly <i>en</i> (one) + <i>lif</i> (= <i>tig</i> , <i>i.e.</i> ten).
12. DVA-DAKAM.	$\delta\acute{\omega}\delta\epsilon\kappa\alpha$.	duo-decim.	deuze.	zwölf.	twelf.	twelve (= twa+lif).
20. DVI-DAKAN-TA.	$\epsilon\kappa\omicron\sigma\iota (= \text{f}\epsilon\kappa\omicron\sigma\iota\tau\iota)$.	vi-gin-ti.	vingt.	zwanzig.	twentig.	twenty.
100. KANTAM.	$\epsilon\kappa\alpha\tau\omicron\nu (= \text{ἐ}\nu\text{-}\kappa\alpha\tau\omicron\text{-}\nu)$.	centum.	cent.	hundert.	hund.	hundred.

numerical symbols may for the most part be traced back to the initial letters of the Sanskrit words denoting 'four,' 'five,' 'six,' etc.

Authorities—Ferrar, chap. x.

Schleicher, § 109.

Taylor, vol. ii. p. 263.

Roby, vol. i. p. 441.

Papillon, p. 20.

§ 7. PARTICLES, under which head are included Prepositions, Adverbs, and Conjunctions, are merely mutilated case-forms. This is obvious in the case of such words as *χάριν*, *δίκην*, *quare*, *quomodo*, etc., but very often the connection is not easy to trace, especially when there is a lack of evidence as to the older forms of a word. The instances, however, in which the particles are evidently relics of more or less obsolete nouns, are so numerous that we are fairly justified in assuming that those words whose original form has not yet been ascertained are probably to be explained in a similar manner.

The cases which are most commonly employed for this purpose seem to be the Accusative, the Ablative, the Locative, and the Instrumental, e.g.—

Accusative—*cum* (= *quo-m*), *quam*, *donec* (*donic-um* in Plautus), *ἄντην*, *ἄκην*, *ἄρτιον*, *circum*, *satis* (= *satius*), *magis* (= *magius*), *μάκρην*, *ὅτι*, *clum* (and its diminutive *clanculum*), *nimum*, *πάλιν*, *non* (= *ne-unum*), *propterea* (plur.), *ita* (plur.), *quia* (plur.), *quod*, *procul*, *simul*, *ἐπὶ*, *secus*, *alias*, *ἀλλά* (plur.), *coram*, *σχεδόν*, *dudum*.

Ablative—*juxta*, *citra*, *contra*, *infra*, etc., *hand*, *omnino*, *magnopere*, *extemplo* (= *ex tempore*), *et* (?), *brevis*, *sed*, *apud*, *οὕτως*, *ὁμῶς*, *gratis*, *denuo* (= *de novo*), *quo-ad*, *frustra*, *κάτω*, *ἄνω*, *subito*, *bene(d)*, *facillime(d)*, etc., *immo* (= *imo*, or superlative of *in*), *illico* (= *in loco*), *de(d)*, *pro* (πρό).

Locative—*præ*, *καί*, *χαμαί*, *vicissim*, *ὑπό* (= *ὑπαί*), *ἀντί*,

ἐν (= ἐνι), παρὰ (= παραι), διὰ (= διαι), περί, πρὸς
(= προσι), *heri*, ποῖ, *ubi*, *illic*, οἴκοι, *enim*.

Instrumental—σῖγα, νόσφι, κρύφει, κομιδῇ, μάλα, ἄμα,
ἵνα, εἰχα, τάχα.

Other cases, however, are also found, *e.g.* Genitive—
οὔ, ποῦ, ὁμοῦ, etc. ; Dative—ἡ, ἡπερ, etc.

Authorities—Papillon, Append. ii.

Roby, bk. ii. chap. xv.

CHAPTER X.

VERBS.

UNLESS we accept the view that the so-called personal endings are merely case terminations, it is necessary, philologically as well as grammatically, to draw a sharp distinction between the Finite and Infinite Moods in verbs—the former alone being the pure *verb*, the latter consisting merely of *verbal nouns and adjectives*.

THE FINITE MOODS.

§ 1. The verbal inflections may be classified under different heads, according as they denote Person, Number, Voice, Mood, or Tense. We will consider them in order—

(i.) PERSON, NUMBER, and VOICE.

The Indo-European personal endings in the Active Voice seem to have been—

Sing. 1. MA (= *I*).

2. TVA (= *thou*), weakening into TA, THA, THĪ,
SI, S.

3. TA (= *that person*).

Dual 1. ?

2. TAM (= TA + MA) or TVAS (= TVA + SI).

3. do.

Plur. 1. MAS = either MA + TVA.

or MA + S (sign of plural).

or MA + SA (= TA).

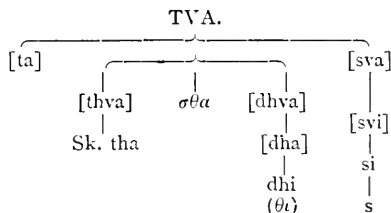
2. TAS = either TVA + SI (= TVA).

or TVA + s (plur.).

or TVA + SA (= TA).

3. ANTI = AN (*that*) + TA.

Note.—Professor Curtius gives the following diagram to show the transformations of TVA; those forms enclosed in square brackets [] do not occur :—



In Greek these became—

Sing. 1. -μ, weakening into -ν in the augmented ¹ tenses, and often vanishing altogether (*e.g.* τυπτω = τυπτ-ο-μ).²

¹ The AUGMENT seems to have been originally a separable prefix. It is found in Sanskrit, Iranian, and Greek, and perhaps Armenian; but Sanskrit and Homeric Greek omit it at pleasure, and Greek only retains it in the Indicative. It was probably a demonstrative denoting past time, and its original form was *a*. This in Greek before a consonant became *ε* (*syllabic augment*); before a vowel it took the form of that vowel, and coalesced with it to form one long syllable (*temporal augment*). In Attic it is only omitted in the case of—1, χοῖν; 2, a few words in Tragedy, *e.g.* καθήμεν, ἄνωγα; 3, a few words at the beginning of lines in ρήσεις ἀγγέλων; 4, sometimes, especially in Hellenistic Greek, in the pluperfect tense. Many cases of apparently irregular augment are due to the vanishing of a consonant, *e.g.* εἶχον = ἔσεχον, εἰργαζόμεν = ἔφεργαζόμεν, εἶρπον = ἔσερπον, ἔρρεπον = ἔφρεπον, ἔαδον = ἔφαδον, ἔωρων = ἔφωρων (this last, like ἀνέφωρον and ἔωκειν, seems an instance of a double augment). Three verbs in Attic take *η* for augment, viz., μέλλω, βούλομαι, and δύναμαι. Verbs beginning with *ει* and *ου* are not augmented; *εν* is disputed. Synthetic compounds (*e.g.* ὀκο-δομέω) take the augment at the beginning; parathetic ones (*e.g.* παρα-βάλλω) between the two members.

The weight of the augment at the beginning of a word causes the accent in pronunciation to be thrown back, and hence the final syllable is less distinctly pronounced. To this cause is attributed the weakened (or “secondary”) personal endings of the augmented tenses in Greek.

² Greek verbs are usually classified according to the ending of the

2. *-σι*, usually weakened to *-ς*, especially in augmented tenses (e.g. *ἔτυπτε-ς*). Often, however, the preceding vowel is lengthened in compensation, or perhaps rather intensified, as though in anticipation of compensation being necessary; thus, *φέρει-σι* became *φέρει-σι*, and then *φέρεις*; so also *φερησι* = *φερησι* = *φέρεις*. In the Imperative the regular termination was *-θι*, e.g. *γνῶθι*, *τύφθη-τι* (the laws of Greek euphony forbidding two aspirates in the same syllable); it is weakened to *-ς* in *ἴδς*, *σχές*, etc., and is often dropped entirely, as in *τύπτε* and *τύψον* (which seems to be a modification of *τυψα-θι*). Sometimes, however, the preceding vowel is lengthened in compensation, e.g. *ἴστη* (= *ἰστυθι*).

Note.—The termination *-σθα*, which appears in a good many words (e.g. *ἦσθα*, *οἶσθα*, *ἔφησθα*), has never been satisfactorily explained; the most plausible theories are—

- (a) That *ἦσθα* = *ES-TVΛ*, and that this was appended in full to other words in the same way as other parts of the root *ES* are used.
- (b) That as *τέτταρες* = *KVATVAR*, *ττα* may = *TVΛ*, and be itself euphonized into *-σθα*.

3. *-τι* (e.g. *ἔστι*), often weakened to *-σι* (e.g. *ἴστησι*), or vanishing, with the previous vowel either lengthened (e.g. *φέρει-τι* = *φέρει-τι* = *φερειτ* = *φέρει*, so too *φερη-τι* = *φερη-τι* = *φερητ* = *φέρει*), or not (especially in augmented tenses, e.g. *ἔτυπτε* = *ἔτυπτε-τι*), or weakened (e.g.

first person sing. of the Present Indic. Act. into “verbs in *-μι*” and “verbs in *-ω*.” The former are regarded as the older, since—

1. The personal endings are added directly to the stem without the intervention of a thematic vowel (see p. 81 *note*).
2. They contain the simplest roots, and involve the most elementary conceptions.
3. They predominate in the older Greek dialects.

$\acute{\epsilon}\tau\nu\psi\text{-}\epsilon = \acute{\epsilon}\tau\nu\psi\text{-}\alpha\text{-}\tau\iota$). In the Imperative it becomes $\text{-}\tau\omega$.

Dual 1. ?

2. $\text{-}\tau\omicron\nu$.

3. $\text{-}\tau\omicron\nu$, changing to $\text{-}\tau\eta\nu$ in augmented tenses, and to $\text{-}\tau\omega\nu$ in the Imperative.

Note.—Mr. Monro says that the Homeric tendency is to make all duals end in $\text{-}\omicron\nu$, the Attic to turn them into $\text{-}\eta\nu$.

Plur. 1. $\text{-}\mu\epsilon\nu$, Doric showing a probably older form $\text{-}\mu\epsilon\varsigma$.

2. $\text{-}\tau\epsilon$.

3. $\text{-}\nu\tau\iota$, preserved in Doric, but weakened in Attic to $\text{-}\sigma\iota$, the preceding vowel being lengthened, thus $\tau\acute{\upsilon}\pi\tau\omicron\nu\iota$ became $\tau\acute{\upsilon}\pi\tau\omicron\nu\sigma\iota$. The augmented tenses take merely $\text{-}\nu$. In the Imperative we find two forms, viz., $\text{-}\nu\tau\omega(\nu)$, which stands to $\text{-}\nu\tau\iota$ as the singular $\text{-}\tau\omega$ does to $\text{-}\tau\iota$, and $\text{-}\tau\omega\sigma\alpha\nu$. This latter seems to be a kind of periphrastic form made by adding to the singular $\text{-}\tau\omega$ the syllable $\text{-}\sigma\alpha\nu$, a fragment of *esanti*, the 3rd person Plural of an Aorist Indic. from the root *ES* (= *to be*); this $\text{-}\sigma\alpha\nu$ seems also to appear in certain Optative forms, e.g. $\acute{\iota}\sigma\tau\alpha\acute{\iota}\eta\sigma\alpha\nu$.

Note.—Mr. Peile thinks that the “ ν , $\acute{\epsilon}\phi\epsilon\lambda\kappa\nu\sigma\tau\iota\kappa\acute{\omicron}\nu$,” so often appended to the third person, arose from the first person plural (e.g.) $\lambda\acute{\epsilon}\gamma\omicron\mu\epsilon\varsigma$ becoming $\lambda\acute{\epsilon}\gamma\omicron\mu\epsilon$, and then $\lambda\acute{\epsilon}\gamma\omicron\mu\epsilon\text{-}\nu$ through the common tendency to nasalization, and that this parasitic $\text{-}\nu$ became extended by analogy to the third person; thus $\lambda\acute{\epsilon}\gamma\omicron\nu\sigma\iota$ became $\lambda\acute{\epsilon}\gamma\omicron\nu\sigma\iota\text{-}\nu$.

In Latin we get—

Sing. 1. $\text{-}m$ (e.g. *amem*), but often dropped; thus in the Present Indicative we only find it in *sum* and *inquam*.

2. $\text{-}s$, except in the Perfect Indicative, which

uses *-ti* or *-sti*, and whose terminations will be discussed later. The Imperative has either lost its ending altogether (e.g. *ama* = *ama-dhi*), or uses the stronger form *-to* (e.g. *ama-to*).

3. *-t* ; in Imperative *-to*.

Plur. 1. *-mus* (*mūs* in Verg. Aen. ix. 610 ; Ovid, Met. xiv. 250).

2. *-tis*. The Perfect will be discussed later. The Imperative either weakens to *-te* (e.g. *ama-te*) or emphasizes to *-tote* (e.g. *ama-tote*).

3. *-nt* ; lost in Perfect in *-ere* (e.g. *amavere* = *amavese* = *amavisont*) ; lengthened in Imperative to *-nto* (e.g. *ama-nto*).¹

The Indo-European Passive endings seem to have been mainly reflexive. "The Passive voice did not exist in the parent Aryan speech. No need for it had arisen, since such a sentence as 'I am pleased' could be as well represented by 'This pleases me,' or 'I please myself.' It was long before the speaker was able to imagine an action without an object, and when he did so it was a neuter or substantival rather than a Passive verb that he formed. The Passive in fact grew out of the Middle or reflexive, and, except in the two Aorists, continued to be represented by the middle in Greek. So, too, in Latin, the second person plural is really the middle participle with *estis* understood, and the whole class of deponent or reflexive verbs proves that the charac-

¹ These Personal endings have not entirely vanished even in modern languages, as we may see by the following comparison of the best known of them :—

<i>French.</i>	<i>Italian.</i>	<i>German.</i>	<i>English.</i>
aim-e.	am-o.	lieb-e.	love.
aim-e-s.	am-i.	lieb-st.	love-st.
aim-e.	am-a.	lieb-t.	love-s or love-th.
aim-o-ns.	am-i-a-mo.	lieb-e-n.	love (<i>older</i> loven).
aim-e-z.	ama-te.	lieb-e-t.	love (do.).
aim-e-nt.	ama-no.	lieb-e-n.	love (do.).

teristic *-r* which Latin shares with Celtic could have had at the outset no passive force.”¹

The Indo-European endings were—

Sing. 1. MAMI = MA + MA (*i.e.* *I do a thing to myself*).

2. TVA-TVI, weakened to SA-SI.

3. TA-TI.

Dual 1. ?

2. ?

3. ?

Plur. 1. MADHAI = MA + TVA + TVI (*i.e.* *I + thou do a thing to thyself*).

2. SDHVAI = TVA + TVA + TVI.

3. ANTATI = AN + TA + TI.

In Greek these appear as—

Sing. 1. *-μαι*, *i.e.* *μαμ* ; augmented tenses take *-μην*.

2. *-σαι* (*e.g.* *ἵστασαι*); *-σο* in augmented tenses, the consonant usually vanishing and causing the vowels, if possible, to unite and form a diphthong (*e.g.* *ἐτύπτου* = *ἐτυπτε-σο*, *ἐτυψω* = *ἐτυψα-σο*, *τύπτοιο* = *τυπτοι-σο*). The *-σαι* itself is sometimes contracted (*e.g.* *τύπτει* = *τυπτε-σαι*). The Imperative keeps *-σαι* in the 1st Aor. Middle (*e.g.* *τύψαι*); the 1st Aor. Passive, as we have seen above, takes the Active termination *-θι* (*e.g.* *τύφθη-τι*); elsewhere *-σο* is used, either contracted (*e.g.* *τύπτου* = *τυπτεσο*), or uncontracted (*e.g.* *τέτυψο*).

3. *-ται*, weakened to *-το* in augmented tenses and becoming *-σθω* in the Imperative. This *-σθω* probably = *-στω* = *τ-τω*, the vowel being intensified as in the Active *-τω*.

Dual 1. *-μεθον*, probably a by-form of the Plural *-μεθα*,

¹ Professor Sayce in *Encycl. Britt.*, s.v. *Grammar*.

with the ending assimilated to that of the other persons of the Dual (-τον, -σθον, etc.).

2. -σθον, apparently a by-form of the plural -σθε.
3. -σθον; in augmented tenses -σθην. The Imperative -σθων probably = -στων = -ττω-ν.

Plur. 1. -μεθα, perhaps representing an older form -μεσθα, in which case the -σθα seems to = ττα = τφα = TVA.

2. -σθε = -σθφε.

3. -νται, weakened to -ντο in augmented tenses. In the Imperative we find σθω(ν) = ττω(ν), and -σθωσαν = ττω-σαν, the last syllable being explained as in the Active.

The Latin Passive is mainly formed by combining with the Active forms the reflexive pronoun -se.

Thus—*amor* = *amore* = *amo-se*.

amaris (weakened to *amare*) = *amarise* = *amasise*
= *amas-i-se*.

amatur = *amature* = *amatuse* = *amat-u-se*.

amamur = *amamurure* = *amamus-u-se*.

amantur = *amanture* = *amant-u-se*.

The 2nd person plural, however, is differently formed, and is really periphrastic; thus *amamini* = *amamini estis*. *Amamini* itself is an obsolete participle in -*minus*, corresponding to the Greek -μενος. In the other tenses and moods the 2nd person is formed on the analogy of the Present Indicative.

In the Imperative *amare* = *amare-se*.

amator = *amato-se*.

amantor = *amanto-se*.

amaminor (if genuine) = *amamini se*,
a hybrid formed on false analogy.

Note.—Irish, Slavonic, and Lithuanian also are said to form their medio-passive voice by suffixing the reflexive Pronoun of the *third* person to all persons of the Active.

DIAGRAM TO SHOW THE PERSON-ENDINGS IN THE CLASSICAL LANGUAGES.

Sing. 1.	Indo-European terminations.	Active Voice.		Latin.		Indo-European.	Medio-Passive Voice.		Latin.
		Indic. Subj. and Opt. 'Primary,' 'Secondary.'	Greek.	Indic. and Subj.	Imperative.		Indic. Subj. and Opt. 'Primary,' 'Secondary.'	Greek.	
2.	MA. TVA or TA, THA, THH, SI, S.	μα.	υ.	m.	—	MAM.	μα.	μῦ.	—
3.	TA.	σι or σθα.	ς.	s or ti or sti.	[dhi] and to.	TVATVI or SASI.	σαι.	σθ.	σαι or σθ
Dual 1.	—	τι or σι.	[τ].	t.	to.	TATI.	ται.	το.	σθω.
2.	TAM or TVAS.	—	—	—	—	?	μεθον.	μεθον.	—
3.	TAM or TVAS.	τον.	τον.	—	—	?	σθον.	σθον.	σθον.
Plur. 1.	MAS.	τον.	την.	—	—	?	σθον.	σθον.	σθων.
2.	TAS.	μεν or μες.	μεν.	mus.	—	MADHAI. or SDHVAI.	μεθα or μεσθα.	μεθα.	—
3.	ANTI.	τε.	τε.	tis. or tote.	te or tote.	ANTATI.	σθε.	σθε.	σθε.
		ντι.	ν.	nt.	nto.		νται.	ντο.	σθων or σθωναν.

Forms enclosed in square brackets [] have vanished.

(ii.) MOOD.

The Moods are usually enumerated in Grammars as Indicative, Imperative, Subjunctive, Optative, and Infinitive. As a matter of fact, however, the Indicative is, strictly speaking, not a 'mood' at all, since it is composed of the Tense-stems with the personal endings affixed; the Imperative in point of form is only the Indicative with more emphatic personal endings; and the Infinitive is merely a verb-noun. We have, therefore, only the Subjunctive and the Optative left; these we will consider separately.

1. *The Subjunctive Mood.*

The characteristic of this Mood seems to have been originally A. This A in Greek verbs in $-\omega$ coalesced with the "thematic" vowel¹ at the end of the stem, and so produced the long vowels ω and η ; thus $\tauύπτωμεν = τυπτο-α-μεν$, $τυπτήτε = τυπτε-α-τε$. Verbs in $-\muι$ possess no thematic vowel, and so the long vowel in their Subjunctive is due probably to the analogy of verbs in $-\omega$.

In Latin the characteristic \bar{a} is seen in the Present Subjunctive of most verbs (e.g. *mone-a-m*, *audi-a-m*), though the vowel became shortened in process of time. An instance of the older scansion is found in Hor. Sat. i. v. 90:—

Callidus ut soleāt humeris portare viator.

Verbs of the First Conjugation,² however, preferred an Optative form, in order to avoid apparently the clashing of

¹ The THEMATIC VOWEL is a vowel which intervenes between the tense stem and the inflections denoting mood or person. Thus in $\tauύπτ-ε-τε$ it is ϵ , in *reg-i-mus* it is i . It is not found in verbs in $-\muι$. In verbs in $-\omega$ it is ϵ or o , viz., o before μ and ν , elsewhere ϵ . In Latin it is o , i , or u . Its origin is doubtful, but it is often regarded as merely euphonic.

² The division of the Latin verb into four CONJUGATIONS is as old as the fourth century A.D. Logically the division would be rather into—

(a) Stems ending in a consonant or semi-consonant (e.g. *reg-o*, *cap-i-o*).

(b) Stems ending in a vowel (e.g. *ama-o*, *mone-o*).

two similar vowels; thus the Subjunctive of *amo* should be *ama-a-m*, but for euphonic reasons the Optative form *ama-i-m* (= *amem*) was substituted.

Note.—Mr. Roby thinks that *mone-a-m* and *audi-a-m* are merely euphonic variations of *mone-i-m*, *audi-i-m*, and so are really Optatives. If this is true, *reg-a-m* (as Mr. Papillon remarks) must be regarded as formed by analogy.

2. The Optative Mood.

The original characteristic of this was *YA*, which appears in Greek as—

ιε, e.g. *τύπτο-ιε-ν*.

ιη, e.g. *τυπέ-ιη-ν*, *ίστά-ιη-ν*.

ι, e.g. *τύπτο-ι-μι*.

Note.—Of these forms *-ι* prefers the 'primary' endings *-μι*, *-σι*, *-τι*; *-ιη* the 'secondary' endings *-ν*, *-ς*, *(-τ)*.

In Latin *YA* appears as—

ie, e.g. *s-ie-m* (later *s-i-m*).

i, in the Perfect Subj. (e.g. *amaver-i-m*) and in such forms as *sim*, *edim*, *velim*.

e (= *a-i*), in the Imperfect and Pluperfect Subj. of all verbs, and the Present Subj. of verbs of the First Conjugation; thus *amem* = *ama-i-m*, *amarem* = *ama-sa-i-m*, *amavissem* = *amavi-sa-i-m*.

Note.—The Future Simple Indic. in the Third and Fourth Conjugations seems to have the subjunctive characteristic in the first person (e.g. *reg-a-m*) and the optative characteristic in the other persons (e.g. *reg-e-s*). The Future Perfect Indic. likewise seems to be optative in form in all except the first person (e.g. *rexer-i-s*).

(iii.) TENSE.

Tenses are inflections to express time. They are formed not directly from the Verb-stem, but from modifications of it known as *Tense-stems*. The main Tense-stems are those of the Strong Aorist, Perfect, Present, Future, Weak Aorist, and Passive Aorist.

1. *The Strong Aorist Stem.*

This—the miscalled ‘Second’ Aorist—is one of the oldest tenses in the verb, since it is usually formed directly from the verb-stem; the verb-stem, for instance, of *τύπτω* is *τυπ*, hence we get for the Strong Aorist *ἔ-τυπ-ο-ν*; in like manner we get *ἔ-γυν-ο-ν* from *γυνω*, *ἔ-φν-ο-ν* from *φν*, *ἔ-σχ-ο-ν* from *(σ)εχ*, *ἔ-σπό-μην* from *(σ)επ*, etc. In fact, the Strong Aorist is virtually the Imperfect of the verb-stem, being formed from it in precisely the same way as the Imperfect tense is formed from the Present stem. Hence it is that when the verb-stem and the Present stem are identical (e.g. in *λύ-ω*), we rarely find a Strong Aorist, otherwise there would be considerable danger of it clashing with the Imperfect.

Sometimes, however, the Strong Aorist stem does not consist of the verb-stem pure and simple, but of the verb-stem reduplicated;¹ thus from the verb-stem *αγ* we get *ἤγαγον*, i.e. *ε-αγαγ-ο-ν*. The object of this is, probably, to give an intensified or causative meaning.

It should be noticed that, as a rule, vowel-stems in the case of this tense dispense with the thematic vowel, e.g. *ἔ-βην*, *ἔ-γυνω-ν*, *ἔ-δυν*, *ἔ-φυν*. Consonantal stems, however, do not drop it, except in Homer, where we find *ἵκ-μενος*, *ῶρ-το*, *ῥέκ-το*, etc.

Note.—In the classical languages this stem seems to be almost entirely confined to Greek. Latin, however, has been thought to show a trace of it in *parentes*, as compared with *parientes*, *sententia* compared with *sentio*, *potens* from the stem *poti-*, etc.

¹ REDUPLICATION is found in both the great divisions of speech. We find it in Nouns like *mar-mor* and *βάρ-βαρ-ος*, and in Verbs to form the stem of the present (e.g. *δί-δω-μι*), the perfect (e.g. *τέ-τυπ-α*), and the Aorist (e.g. *ἤγ-αγ-ο-ν*). “It was probably the earliest, and certainly the most natural way of expressing greater intensity of feeling,” especially among savages and children (e.g. *puff-puff*, *tick-tick*, etc.). It has been attributed to the love of alliteration, and a lingering of the idea is seen in such phrases as *τριμέγιστος*, *τρίδουλος*, *οὐδέεις οὐ*, etc.

2. *The Perfect Stem.*

In Greek the Perfect stem is usually formed from the verb-stem by Reduplication,¹ e.g. τέ-τυπ-α from τυπ. Euphony, however, considerably modifies this reduplication, hence we get as rules—

- (a) When the verb-stem begins with a consonant, the first letter is prefixed with the vowel ε inserted for the sake of euphony. Apparent exceptions are mostly due to a desire for easier articulation, e.g.—
 - (α) When the initial consonant is an aspirate it is reduplicated as a tenuis, e.g. τέ-θυ-κα from θυ.
 - (β) Verbs beginning with two (or double) consonants take ε for their reduplication, except that, if the two consonants consist of a mute followed by λ, μ, ν, or ρ, the first alone is reduplicated, e.g. κέ-κλι-κα from κλι.

Note.—Exceptions to this rule are not rare, especially in the case of the combinations γν, γλ, βλ, e.g. from γνω we get, not γεγιωκα, but ἐγιωκα.

- (γ) Some verbs beginning with a liquid reduplicate in ει, e.g. εἰ-ληφα from λαβ.
- (b) When the verb-stem begins with a vowel, the first letter is lengthened, e.g. ὤρθωκα from ὀρθο. Some stems, however, which begin with α, ε, or ο, take what is called *Attic reduplication*, i.e. they double either the whole stem (e.g. ὤδ-ωδ-α from οἶδ) or the first syllable of the stem (e.g. ἐλ-ήλα-κα from ελα), lengthening in any case the original vowel of the stem, though keeping it short in the reduplicated syllable; thus, in the instances just cited, we get

¹ We have one verb in modern English whose perfect is formed by Reduplication, viz., *did* from *do*. In English 'weak' verbs the perfect is formed by appending this word to the stem, e.g. *love-d* = *love did*.

ὄδ-ωδ-α not ὀδ-οδ-α, ἐλ-ήλα-κα not ἐλ-ελα-κα. Other instances would be ἀκήκοα, ὁμώμοκα, ἐδῆδοκα, etc.

Note.—Many instances of apparently eccentric reduplication are due to the loss of a consonant; thus εἴμαρμαι = σασμαρμαι, ἐάλωκα = *Fe*φαλωκα.

Besides reduplication we occasionally find the vowel of the verb-stem intensified (*e.g.* τέ-τευχ-α from τυγ), or more frequently modified (*e.g.* γέ-γον-α from γεν).

In any case, to the reduplicated stem, whether intensified or not, it seems probable that the personal endings were originally directly appended, *e.g.* βεβᾶ-ασι, δέδει-μεν (Thuk. iii. 56), ἴδ-μεν. At a later period the stem was lengthened by the addition of the vowel α, the origin of which is very doubtful; it seems, however, not unlikely that this α was probably at first appended to the first person singular and the third person plural, and then was extended by analogy to the other persons; in that case it might have some connection with the personal endings MA and ANTI. Whatever be the explanation, however, the result would be to form from the verb-stem τυπ the perfect stem τετυπα-. Sometimes this α was aspirated for some unknown reason, and became ᾱ; thus we get the form τετυφα-. When the verb-stem ended in a vowel, or in one of the consonants τ, δ, θ, λ, μ, ν, ρ, it became customary to insert a κ before the characteristic α; *e.g.* from λν came λέ-λν-κ-α. The origin of this κ is unknown, but it seems to appear also in the somewhat rare Aorists in -κα, *e.g.* ἔδωκα, ἔθηκα.

Note.—It has been suggested that these Perfects and Aorists in -κα point to a lengthening of the verb-stem by κ; thus, for instance, ὄλ-ώλεκ-α would be the regular perfect of ὀλεκ-, ἔθηκ-α the regular (Strong) Aorist of ἔθηκ-.

The Perfect Middle (or Passive) is formed by appending the passive personal endings directly to the perfect stem, without the interposition of any thematic or characteristic

vowel, or the mysterious κ or aspirate, e.g. $\lambda\acute{\epsilon}\lambda\upsilon\text{-}\mu\alpha\iota$, $\tau\acute{\epsilon}\tau\upsilon\mu\mu\alpha\iota$ (= $\tau\epsilon\tau\upsilon\pi\text{-}\mu\alpha\iota$).

From the Perfect stem are also formed two other tenses, the Pluperfect and the Paulopost Future.

The *Pluperfect* is virtually the Imperfect of the Perfect stem. It is formed from it by prefixing the augment, and appending, without the intervention of the characteristic α , the past tense of the root ES (= *to be*), viz., *esami*, *esasi*, *esati*, etc. In the third person singular this suffix (as we must call it) *esati* became weakened successively to *esat*, *eset*, *cse*, *ee*, *ei*, and this *ei* ($\epsilon\iota$) was transferred by analogy to the other persons indiscriminately. Thus from $\tau\upsilon\pi$ we get the perfect stem $\tau\acute{\epsilon}\tau\upsilon\pi(\alpha)$, and hence comes the pluperfect $\acute{\epsilon}\text{-}\tau\epsilon\tau\acute{\upsilon}\pi\text{-}\epsilon\iota\nu$ (= $\acute{\epsilon}\text{-}\tau\epsilon\tau\upsilon\pi\text{-}\epsilon\sigma\alpha\mu\iota$), etc. In the Passive the Pluperfect only differs from the Perfect in being augmented, and taking the secondary personal endings $\text{-}\mu\eta\nu$, $\text{-}\sigma\omicron$, $\text{-}\tau\omicron$, e.g. $\acute{\epsilon}\text{-}\tau\epsilon\tau\acute{\upsilon}\pi\text{-}\mu\eta\nu$.

The *Paulopost Future* is formed from the Perfect stem (without the characteristic α or κ) by adding ς (which will be discussed under the head of the Future stem), and appending the primary passive endings $\text{-}\mu\alpha\iota$, $\text{-}\sigma\alpha\iota$, $\text{-}\tau\alpha\iota$, e.g. $\tau\epsilon\tau\acute{\upsilon}\psi\omicron\mu\alpha\iota$ = $\tau\epsilon\tau\upsilon\pi\text{-}\sigma\omicron\text{-}\mu\alpha\iota$.

In Latin the Perfect stem is formed from the verb-stem in one of four ways, viz. :—

- (a) By reduplication, e.g. *mo-mord-i*, from *mord*. It should be noticed, however, that there is much less consistency in the vowel of the reduplicated syllable in Latin than in Greek; thus we get *mo-mord-i* from *mord*, and *tu-tud-i* from *tud*, but *pe-per-i* from *par*-, *pe-perc-i* from *parc*-, *pe-pul-i* from *pel*-, *ce-cin-i* from *can*-, *te-tig-i* from *tag*-, etc. Moreover, when a word begins with two consonants, both are reduplicated in Latin, but the first one of the original stem vanishes; thus from *spond* we get *spo-pond-i*, instead of *spo-spond-i*. The redu-

plication is commonly dropped in compound verbs, except in those compounded of *do* and *sto*, e.g. *com-pul-i*, *con-tig-i*, but *con-di-d-i* and *re-sti-ti*. Sometimes, too, even in simple verbs it vanishes, e.g. *tul-i*, *fid-i*, *vert-i*, but in this case it usually leaves a trace of itself in the lengthening of the stem-vowel in compensation, e.g. *vic-i*, *fōd-i*, *jēc-i*, *frēg-i*.

Note.—*Reppuli* and *repperi* are explained as equivalent to either *red-puli*, *red-peri*, or *re-pepuli*, *re-peperi*.

- (b) By lengthening the stem-vowel, e.g. *fāv-i*, *cēg-i*. This is explained in different ways, viz. :—

(a) As a compressed reduplication; thus *cēpi* would = *ce-cip-i*; this might conceivably contract into either *c-cip-i* or *ce-cp-i*, and from one of these contracted forms would come *cēp-i*.

(β) As a relic of a kind of Greek formation of the perfect stem, viz., by both reduplicating and lengthening the verb-stem; thus, just as we find $\tau\acute{\epsilon}\text{-}\tau\epsilon\nu\chi\text{-}\alpha$ from $\tau\nu\gamma$, so we might find *ce-cēp-i* from *cap*; in course of time the Latin word might lose the reduplication, and so we might get *cēp-i*.

Some authorities, however, regard the mere lengthening of the vowel as a separate mode of forming the perfect stem in Latin.

- (c) By the addition of *-s* to consonantal stems. This *s* is apparently a fragment of the root *ES* (= *to be*). Thus *scripsi* = *scrib-es-i*, *rexī* = *reg-es-i*.
- (d) By the addition of *u* to consonantal, *v* to vowel-stems, probably a fragment of the root *FU* (= *to be*), which is also seen in *fui*, $\phi\acute{\upsilon}\omega$, *fio*, etc. Thus, *amavi* = *ama-fu-i* (the *v* representing, not the *f*,

but the *u* in *fu*,¹ which seems to pass through the successive forms *fu-*, *bhu-*, *hu-*, *u*), *monui* = *mon-fu-i*, *audivi* = *audi-fu-i*.

Note.—Sometimes we find the last two methods of forming the perfect stem combined; thus *messui* = *met-s-u-i*, *nexui* = *nec-s-u-i*.

To the Perfect stem, in whichever way formed, was appended a characteristic syllable *i* or *is*, just as the Greeks appended the characteristic *a*. There is considerable doubt as to which of the two forms (*i* or *is*) was actually employed, and so we get the perfect terminations differently analysed, viz. :—

Either,—

Sing. 1.	-i-(mi),	or, i(s-mi), or (a combination	i-(mi).
2.	-i-sti (= $\sigma\theta a$),	is-ti, of both)	is-ti.
3.	-i-t,	i(s)-t,	i-t.
Plur. 1.	-i-mus,	i(s)-mus,	i-mus.
2.	-i-stis (= $\sigma\theta\epsilon$),	is-tis,	is-tis.
3.	-i-ont,	is-ont,	is-ont.

Note.—*is* seems to appear in the Infinitive Mood, e.g. *amavisse* = *ama-v-is-set*.

The Perfect Passive being a periphrastic tense needs no separate consideration here.

1

PARADIGM OF THE LATIN ROOT 'FU' (= TO BE).

	Indicative.	Subjunctive and Optative.	Infinitive.	Parti- Impreciples. rative.
Present.	fi-o (fuo).	fi-a-m (fu-a-m in Plautus).	fieri (= fiesei) and fore (= fosei).	fi.
Future.	fi-a-m (subj.) and fu-i-o (e.g. in <i>ama-bo</i>).			fu-turu-s.
Imperfect.	fi-e-bam and fu-a-m (e.g. in <i>ama-bam</i>).	fi-e-rem and fo-rem.		
Perfect.	fu-i (fu-vi in Plautus).	fu-e-rim.	fu-i-s-se.	
Future Perfect.	fu-ero.			
Pluperfect.	fu-eram.	fu-i-ssem.		

From the Perfect stem there were also formed the Future Perfect Indic., the Pluperfect Indic. and Subj., and the Perfect Subj.

The *Future Perfect Indic.* was formed by appending directly to the Perfect stem, without the intervention of the characteristic *i* or *is*, the suffix *ero* (i.e. *es-i-o*), the future of the root *ES*. The third person plural was made to end in *-int*, probably to distinguish it from the Perfect *-unt*.

The *Pluperfect Indic.* was formed by adding in like manner to the simple Perfect stem, without the characteristic *i* or *is*, *eram* (i.e. *es-a-m*), the past tense of the root *ES*,—a mode of formation identical with that of the Greek Pluperfect.

The *Pluperfect Subj.* was formed by adding to the Perfect stem, lengthened by the characteristic syllable, the suffix *essem* = *essem* (i.e. *es-a-i-m*), the past tense of the Optative of the root *ES*. Thus *amavissem* = *ama-v-i-essem*.

The *Perfect Subj.* was formed by adding to the Perfect stem and the characteristic syllable the suffix *sim* (i.e. *si-em*), the Present Optative of the root *ES*. Thus *amaverim* = *ama-v-i-sim*.

3. The Present Stem.

This is formed in various ways from the verb-stem, viz. :—

- (a) By employing the verb-stem without change, e.g.
ἄγ-ω, λῦ-ω, κατ-ο.
- (b) By reduplication, e.g. *gigno* (= *gi-gen-o*, cf. *γένος, genui*), *sero* (= *se-s-o*, from a root *SA*, seen in *satus*), *διδ-ω-μι, πίπ(ε)τ-ω* (cf. *ἔ-πεσ-ο-ν*). It should be noticed that Greek employs in the reduplicated syllable in the Present tense the vowel *ι*, instead of *ε* as in the Perfect.

Note.—Sometimes we find the reduplicated syllable intensified (e.g. *παί-πάλλ-ω*) or nasalized (e.g. *πί-μ-πλη-μι*).

- (c) By raising the vowel, either by simply lengthening it (*e.g.* λήθ-ω, cf. ἔ-λαθ-ον, *fīdo*, cf. *fīdes*), or by adding to it *i* or *u*, and so producing a diphthong (*e.g.* πείθω, cf. ἔ-πιθ-ον).
- (d) By nasalization, either—
- (α) By inserting a nasal, *e.g.* τα-*n*-γο (cf. *te-tig-i*, *tac-tus*), φρα-*n*-γο (cf. *freg-i*, *frac-tus*), ἵν-*n*-γο (cf. *jugum*).
 - (β) By appending a nasal, *e.g.* πί-*n*-ω (cf. ἔ-πι-ον), κάμ-*n*-ω (cf. ἔ-καμ-ον), πο-*n*-ο (*i.e.* *pos-n-o*, cf. *pos-u-i*, *pos-ium*).
 - (γ) By adding a nasal syllable, *νε*, *να*, *νη*, *νυ*, *αν*, *e.g.* ἰκ-νέ-ο-μαι (cf. ἰκ-όμην), ἁμαρτ-άν-ω (cf. ἡ-μαρτ-ον).

Note.—In verbs like λα-μ-β-άν-ω (cf. ἔ-λαβ-ον) and θι-γ-γ-άν-ω (cf. ἔ-θιγ-ον) we find a double nasalization.

- (e) By the addition of *τ* (often with a frequentative meaning), *e.g.* πλε-*t*-ο (cf. πλέκ-ω), βλάπ-*τ*-ω (cf. βλάβη), τίκ-*τ*-ω (cf. ἔ-τεκ-ον), τύπ-*τ*-ω (cf. ἔ-τυπ-ον).
- (f) By the addition of *σκ* (often with an inceptive meaning), *e.g.* σενε-*sc*-ο (perfect *sen-ui*), να-*sc*-ορ (cf. *na-tus*), γηρά-*σκ*-ω (cf. γῆρας). This *σκ* is also used to form iteratives such as ἔχ-*ε-σκ*-ον.
- (g) By the addition of *να*, which appears in different forms, *e.g.*—
 - (α) As a vowel, *e.g.* κατ-*i*-ο (cf. *cap-tus*), γαμ-έ-ω (cf. γάμος).
 - (β) As a diphthong, *e.g.* καίω (= κατ-γω, cf. ἔ-καυ-σα), φαίω (= φαν-γω, cf. ἐ-φάν-ην), κλαίω (= κλατ-γω, cf. ἔ-κλαν-σα).
 - (γ) As a consonant, *e.g.* φυλάσσω (= φυλακ-γω, cf. φύλαξ), πράσσω (= πραγ-γω, cf. πρᾶγμα), πέλλο (= πελ-γω, cf. *pe-pul-i*).

Note.—Possibly the irregular contractions of such words as ζάω, δῖψάω, χράομαι, etc., point to a time when they were ζα-γ-ω, δῖψα-γ-ω, and the loss of the 'γ' lengthened the preceding vowel, and thus we get ζῆν from ζαγω, just as we find πόληος from πολεγος.

From the Present stem are formed the Imperfect in Greek and Latin, and the Future Simple in Latin.

The *Imperfect (Greek)* was formed by prefixing the augment and using the secondary personal endings, active or passive respectively; thus ἔτυπτον = ἐ-τυπτ-ο-ν, ἐτυπτόμην = ἐ-τυπτ-ο-μην.

The *Imperfect (Latin)* was formed in the Indicative Mood by adding *-bam* to the Present stem. This *-bam* is thought to = *bham* = *fam* = *fu-a-m*, a past tense of the root FU, just as *eram* (= *es-a-m*) is a past tense of the root ES. Thus *amabam* = *ama-fu-a-m*. In the Subjunctive it is formed by adding to the Present stem *-rem*, i.e. *sem* = *essem* (i.e. *esa-i-m*), the Past Optative of the root ES. Thus *amarem* = *ama-essem*.

The *Future Simple* in Latin, in the First and Second Conjugations, is formed by adding to the Present stem *-bo*, which is explained as equivalent to either *fu-o* (the present of the root FU), or *fu-i-o* (a future of the root FU, just as *ero*, i.e. *es-i-o*, is of the root ES). Thus in the former case *amabo* would = *ama-fuo* (i.e. "I am to love"); in the latter it would = *ama-fu-i-o* (i.e. "I go to be loving"). The Future of the Third and Fourth Conjugations has been already explained as a mixture of Subjunctive and Optative forms.

4. *The Future Stem (Greek).*

This is formed by adding *s* to the verb-stem; thus from τυπ we get τύψ-ω. This *s* is usually explained as being a relic of *esio* (Latin *ero*), the future of the root ES. This *esio* itself is thought to be composed of the two roots ES (= *to be*) and YA (= *to go*), and so means literally "I go to be." Thus τύψω = τυπ-εσ-γ-ω, i.e. "I go to be striking." The

contracted futures βαλῶ (= βαλεσω), μενῶ (= μενεσω), etc., would be explained in the same way.

Note.—This future characteristic *s* is thought to appear in Latin in archaic forms like *faxo*, which, according to some authorities, is a future simple indic. formed from *fac*, just as *τίψω* from *τυπ*; its optative then would be *faxim*. Others, however, explain *faxo* as a future perfect (*fē-faci-so*), and *faxim* as a perfect subj. (*fē-faci-sim*). So, too, *ausim* = either *aud-s-im* (future) or *ausi-sim* (perfect).

5. The Weak Aorist Stem.

This Aorist, which is otherwise known as the 'First' or the 'Sigmatic' Aorist, is usually formed from the verb-stem by prefixing the augment and adding -ε or -σα. This -ε or -σα is explained as being either a mere stem-forming addition without any known meaning, like the perfect -κα, or a relic of *esam* (Latin *eram*), the Past tense of the root ES. Thus *ἔτυψα* = *ἐ-τυπ-σα-μι*. Stems ending in λ, μ, ν, ρ, drop the -ε and lengthen the stem-vowel in compensation, e.g. *ἔμεινα* = *ἐ-μεν-σα*.

Note.—The Aeolic Optative in -σῖα seems to = *σα-ιη*, of which *α* is weakened to *ε*, and the termination is assimilated to the Aorist characteristic *α*.

6. The Passive Aorist Stems.

Aorists like *ἐτύπην* and *ἐτύφθην* are difficult to explain. They have a passive meaning, but their personal endings are active; the whole passivity then seems to lie in the η or θη. The origin of this η or θη is practically unknown. All we can say is that these passive Aorists are formed from the verb-stem by prefixing the augment and affixing η or θη, according as the 'Second' or 'First' Aorist is required, and then appending the secondary active endings. It has been suggested that these tenses were originally intransitive, and that the passive sense was a later growth, or adaptation; thus we find *ἐφράσθη* used in the sense of *he observed*, *ἐφάνη* *he appeared*.

From these stems are formed the *First and Second Futures* Passive, by appending the future characteristic ϵ and using the primary passive personal endings, e.g. from $\tau\upsilon\pi$ we get the Aorists $\acute{\epsilon}\text{-}\tau\acute{\upsilon}\pi\text{-}\eta\text{-}\nu$ and $\acute{\epsilon}\text{-}\tau\acute{\upsilon}\phi\text{-}\theta\eta\text{-}\nu$ ($= \acute{\epsilon}\text{-}\tau\upsilon\pi\text{-}\theta\eta\text{-}\nu$), and the futures $\tau\upsilon\pi\text{-}\acute{\eta}\text{-}\sigma\text{-}\omicron\text{-}\mu\alpha\iota$ and $\tau\upsilon\phi\text{-}\acute{\theta}\acute{\eta}\text{-}\sigma\text{-}\omicron\text{-}\mu\alpha\iota$ ($= \tau\upsilon\pi\text{-}\theta\eta\text{-}\sigma\text{-}\omicron\text{-}\mu\alpha\iota$).

THE INFINITIVE MOOD.

§ 2. The so-called Infinitive Mood, as we said above, is not really a 'mood,' or indeed a verb at all, but merely a collection of verbal nouns and adjectives. That this is the case will be shown clearly by an examination of the different terminations employed. Similar evidence is borne by syntax, which constantly treats verbs in the Infinitive as mere nouns. Thus we find in Latin such phrases as *multum interest inter dare et accipere*; in Greek, too, the Infinitive with the aid of the article is regularly declined (e.g. $\tau\omicron$ $\tau\acute{\upsilon}\pi\tau\epsilon\iota\nu$ = 'striking'). Mr. Monro also says that the old Sanskrit Infinitives are literally abstract nouns, and would hardly have been classed apart from other case-forms if they had not been recognized as the precursors of the later "Infinitive."

It will be convenient to consider the Infinitive and the Participles separately.

(i.) *The Infinitive terminations.*

In Greek these are—

1. $\text{-}\mu\epsilon\nu\alpha\iota$ (e.g. $\phi\acute{\alpha}\text{-}\mu\epsilon\nu\alpha\iota$), often abbreviated apparently to $\text{-}\mu\epsilon\nu$ (e.g. $\acute{\epsilon}\lambda\theta\acute{\epsilon}\text{-}\mu\epsilon\nu$). This is explained as either a dative of the suffix MAN (seen in such words as $\eta\omicron\text{-}\mu\epsilon\nu$, $\pi\omicron\iota\text{-}\mu\acute{\eta}\nu$, etc.), or a locative of the suffix MANA (seen in participles like $\phi\epsilon\rho\acute{\omicron}\text{-}\mu\epsilon\nu\omicron\text{-}\epsilon$).
2. $\text{-}\epsilon\nu\alpha\iota$ (e.g. $\iota\text{-}\acute{\epsilon}\nu\alpha\iota$) or $\text{-}\nu\alpha\iota$ (e.g. $\gamma\nu\omega\text{-}\nu\alpha\iota$, $\beta\eta\text{-}\nu\alpha\iota$). This seems to be either a shortened form of $\text{-}\mu\epsilon\nu\alpha\iota$ or a dative of the suffix VAN .

Note.—The terminations of the Perfect tense (*e.g.* *τετυπ-έναι*) and of verbs in *-μι* (*e.g.* *ᾔδ-ό-ναι*) is apparently either a dative of AN or a locative of ANA.

3. *-ειν* (*e.g.* *τύπτ-ειν*), probably = *ενι*, which is either a locative of AN or is equivalent to *-εναι*.
4. *-σθαι* (*e.g.* *ᾔδ-ο-σθαι*), or *-θαι* (*e.g.* *τετύφ-θαι*), are probably datives of DHI passing through different channels, viz. :—

$$\begin{aligned} \text{DHI} &= \text{dhyai} = \theta\gamma\alpha\iota = \theta\alpha\iota \\ &= \theta\theta\alpha\iota = \tau\theta\alpha\iota = \sigma\theta\alpha\iota. \end{aligned}$$

5. *-αι* of the First Aorist Active, *e.g.* *τύψ-αι*. This seems to be formed with a termination assimilated to that of the Perfect.

In Latin the Infinitive terminations are—

1. *-se* (*e.g.* *amavisse*), appearing also as *-re* (*e.g.* *amare*) and *-le* (*e.g.* *velle*). This seems to = *sei*, a dative of an old noun; thus *amare* = *ama-sei*. The long final *ē* is constantly found in Plautus, and a trace of it is left in *fic-rī* (= *fic-sei*).
2. *-ri* (*e.g.* *amari*), appearing in consonantal stems as *-i* (*e.g.* *regi*). Different explanations have been given of this, viz. :—

(a) That just as *amor* = *amo-se*, so *amari* = *amarier* = *amare-er* = *amare-re* = *amare se*. Forms in *-ier* (like *amarier*) are common in writings prior to about 120 B.C., and so would support this view, but consonantal stems cause a difficulty; *dicier*, for instance, cannot easily be resolved into *dicere-se* unless the existence of a shortened form, *dice* for *dicere*, may be assumed.

(b) That *amari* = *amarier* = *amasies* = *amasia-se*, *i.e.* literally 'loving as to oneself.' *Dicier* similarly would = *dicia se*.

(c) That *amari* is only a by-form of *amare*, from

an original dative *amasci*, and that *amarier* was only an attempt to affix the passive termination *r* on the analogy of the finite moods.

The general result is that most Infinitive terminations in Greek and Latin may be resolved into datives. It has been suggested that this dative origin may explain the use of the Infinitive in consecutive and final sentences, and may possibly have something to do with the rather mysterious particle *to* in the English phrase *to love*.

(ii.) *The Participial terminations.*

The chief suffixes used to form Participles are—

VAT or VANT, seen in the Perfect Participle in Greek
thus τετυφώς = τετυπ-*φο*τ-ς.

Note.—The feminine τετυφύῃα is said to = τετυπ-*φυσ*-γα, and to be formed from another suffix, VAS.

ANT or -NT, found in the Present Participle both in Greek and Latin ; thus τύπτων = τυπτ-*ον*τ-ς, *amans* = *ama-nt-s*. It also appears in the Greek Strong (e.g. τυπών = τυπ-*ον*τ-ς, τυπείς = τυπ-*εν*τ-ς), and Weak (e.g. τύψας = τυψ-*αν*τ-ς, τυφθείς = τυφθ-*εν*τ-ς) Aorists.

Note.—The Latin *e-uns*, *e-unt-em*, etc., shows an approximation to the Greek -*οντ*.

MANA, seen in the Passive Participles in Greek (e.g. τυπτ-*ό*-μενο-ς), and in such Latin words as *ammini*, *alu-mn-u-s* (= *alomenus*), *fe-min-a*, *vertu-mn-u-s*, *æru-mna* (cf. αἰρομένη), *au(c)tu-mn-u-s*, etc.
TA, appearing in the Latin perfect participle passive (e.g. *cap-tu-s*), and in the supines, which seem to be the accusative and ablative (or dative) of a verbal noun of the Fourth Declension.

TARA, found in the Latin future participle active (*e.g.* *cap-turu-s*).

Note.—The Latin Gerund and Gerundive stem *-ndu-* seems to be a variation of the stem of the present participle, viz., *-nt-*, but its origin is much disputed (see Roby, *Lat. Gr.*, Preface, bk. iv. § ii.).

Authorities—Curtius, *passim*.

Papillon, chap. viii.

Wordsworth, chaps. xiv-xix.

Roby, bk. ii. chaps. xvii-xxv.

Peile, *Primer*, chap. v.

Morris, chap. x.

APPENDIX A.

ANALYSIS OF THE VERB ΤΥΠΤΩ.

Verb stem—*τυπ*.

Strong Aorist stem *τυπ*: hence is formed the Strong (2nd) Aorist¹ tense, viz.—

<i>Ind.</i> <i>ἐ-τυπ</i> -ο-ν.	<i>Imperf.</i> <i>τυπ</i> -ε-(θ)ι.	<i>Subj.</i> <i>τυπ</i> -ω	<i>Opt.</i> <i>τυπ</i> -ο-ι-μι.	<i>Inf.</i> <i>τυπ</i> -ειν	<i>Partic.</i> <i>τυπ</i> -ων	<i>Plur.</i> <i>τυπ</i> -οντι-ς.
ἐ-ς.	ἐ-τω.	ψς =	ε-α-σι.	ο-ι-ς.	ο-ι-ς.	ο-ι-ς.
ἐ-(τ).	ἐ-των.	ψ =	ε-α-τι.	ο-ι-(τι).	ο-ι-(τι).	ο-ι-(τι).
ἐ-των.	ἐ-των.	ητων =	ε-α-των.	ο-ι-των.	ο-ι-των.	ο-ι-των.
ἐ-την.	ἐ-τῆ.	ητων =	ε-α-των.	ο-ι-την.	ο-ι-την.	ο-ι-την.
ο-μεν.	ἐ-τω-σαν.	ωμεν =	ο-α-μεν.	ο-ι-μεν.	ο-ι-μεν.	ο-ι-μεν.
ἐ-τε.	ο-ντω-ν.	ητε =	ε-α-τε.	ο-ι-τε.	ο-ι-τε.	ο-ι-τε.
ο-ν.		ωσι =	ο-α-ντι.	ο-ι-ν.	ο-ι-ν.	ο-ι-ν.

Perfect stem *τε-τυπ*-(a)—or *τε-τιφ*-(a) (i.e. *τε-τυπ*-α): hence are formed the Perfect and Pluperfect Active and Passive, viz.—

<i>1. Perfect Ind.</i> <i>τετυπ</i> α-(μ)ι.	<i>Active.</i>	<i>etc. (as Strong Aorist).</i>	<i>Subj.</i> <i>τετυπ</i> -ε-(θ)ι.	<i>Opt.</i> <i>τετυπ</i> -ο-ι-μι.	<i>Inf.</i> <i>τετυπ</i> -ειν.	<i>Partic.</i> <i>τετυπ</i> -ων	<i>Plur.</i> <i>τετυπ</i> -οντι-ς.
α-ς.	ε-τω.	-ης =	ε-α-σι.	ο-ι-ς.	ο-ι-ς.	ο-ι-ς.	ο-ι-ς.
α-(=α-τι).	etc. (as Strong Aorist).	etc. (as Strong Aorist).	etc. (as Strong Aorist).	etc. (as Strong Aorist).	etc. (as Strong Aorist).	etc. (as Strong Aorist).	etc. (as Strong Aorist).
α-των.	α-των.	α-των.	α-των.	α-των.	α-των.	α-των.	α-των.
α-μεν.	α-μεν.	α-μεν.	α-μεν.	α-μεν.	α-μεν.	α-μεν.	α-μεν.
α-τε.	α-τε.	α-τε.	α-τε.	α-τε.	α-τε.	α-τε.	α-τε.
α-σι.	(= α-ντι).	(= α-ντι).	(= α-ντι).	(= α-ντι).	(= α-ντι).	(= α-ντι).	(= α-ντι).

2. Perfect *Ind.* *τετυπ*-μαι.

Passive.

<i>Impr.</i> <i>τετυπ</i> -σο.	<i>Subj.</i> (periphrastic).	<i>Opt.</i> (periphrastic).	<i>Inf.</i> <i>τετυπ</i> -σθαι.	<i>Partic.</i> <i>τετυπ</i> -μενος-ς.
σαι.	-σθω.	-σθω.	-σθω.	-σθω.
ται.	-σθον.	-σθον.	-σθον.	-σθον.
μεθον.	-σθων.	-σθων.	-σθων.	-σθων.
σθον.	-σθι.	-σθι.	-σθι.	-σθι.
σθον.	-σθω-σαν.	-σθω-σαν.	-σθω-σαν.	-σθω-σαν.
μεθα.	ο-ντω-ν.	ο-ντω-ν.	ο-ντω-ν.	ο-ντω-ν.
σθε.				

3rd person is periphrastic.)

¹ The 2nd Aorist *Active* is alone analysed here: the *Passive* form will be found later. In the *Middle* its terminations are identical with the Imperfect *Passive* in the Indicative mood, and with the Present *Passive* in the other moods.

3. Pluperfect <i>Ind.</i> $\dot{\iota}\tau\epsilon\tau\upsilon\pi\text{-}\epsilon\upsilon\upsilon$ = $\dot{\iota}\tau\epsilon\tau\upsilon\pi\text{-}\epsilon\sigma\alpha\upsilon$.	
<i>Active.</i>	$\epsilon\iota\varsigma$
	$\epsilon\iota$
	$\epsilon\iota\text{-}\tau\omicron\upsilon\upsilon$
	$\epsilon\iota\text{-}\tau\eta\eta$
	$\epsilon\iota\text{-}\mu\epsilon\upsilon$
	$\epsilon\iota\text{-}\tau\epsilon$
	$\epsilon\iota\text{-}\sigma\alpha\upsilon$

4. Pluperfect *Ind.* $\dot{\iota}\tau\epsilon\tau\upsilon\pi\text{-}\mu\eta\upsilon$.

<i>Passive.</i>	$\text{-}\sigma\upsilon$.
	$\text{-}\tau\omicron$.
	$\text{-}\mu\epsilon\theta\omicron\upsilon$.
	$\text{-}\sigma\theta\omicron\upsilon$.
	$\text{-}\sigma\theta\eta\upsilon$.
	$\text{-}\mu\epsilon\theta\alpha$.
	$\text{-}\sigma\theta\epsilon$.

(3rd person is periphrastic.)

Present stem $\text{---}\tau\upsilon\pi\text{-}\tau$: hence are formed the Present and Imperfect Active and Passive, viz. —

1. Present <i>Ind.</i> $\tau\upsilon\pi\tau\text{-}\omega$ = $\tau\upsilon\pi\tau\text{-}\omicron\text{-}\mu\upsilon$.	<i>Impf.</i> $\tau\upsilon\pi\tau\text{-}\omega$ = $\tau\upsilon\pi\tau\text{-}\omicron\text{-}\alpha\text{-}\mu\upsilon$.	<i>Opt.</i> $\tau\upsilon\pi\tau\text{-}\omicron\text{-}\iota\text{-}\mu\upsilon$.	<i>Inf.</i> $\tau\upsilon\pi\tau\text{-}\epsilon\upsilon\upsilon$ = $\tau\upsilon\pi\tau\text{-}\epsilon\upsilon\upsilon$.
<i>Active.</i>	$\epsilon\iota\varsigma$ = $\epsilon\text{-}\sigma\iota$.	$\eta\varsigma$ = $\text{-}\epsilon\text{-}\alpha\text{-}\sigma\iota$.	$\omicron\text{-}\iota\text{-}\varsigma$.
	$\epsilon\iota$ = $\epsilon\text{-}\tau\iota$.	etc. (as	etc.
	$\epsilon\text{-}\tau\omicron\upsilon$.	Strong	(as Strong
	$\epsilon\text{-}\tau\omicron\upsilon$.	Aorist).	Aorist).
	$\omicron\text{-}\mu\epsilon\upsilon$.		
	$\epsilon\text{-}\tau\epsilon$.		
	$\omicron\upsilon\sigma\iota$ = $\tau\upsilon\pi\tau\text{-}\omicron\text{-}\eta\tau\iota$.		

2. Present <i>Ind.</i> $\tau\upsilon\pi\tau\text{-}\omicron\text{-}\mu\alpha\iota$.	<i>Impf.</i> $\tau\upsilon\pi\tau\text{-}\omicron\upsilon$ (= $\epsilon\text{-}\sigma\omicron$).	<i>Subj.</i> $\tau\upsilon\pi\tau\text{-}\omega\text{-}\mu\alpha\iota$	<i>Opt.</i> $\tau\upsilon\pi\tau\text{-}\omicron\text{-}\alpha\text{-}\mu\alpha\iota$.	<i>Inf.</i> $\tau\upsilon\pi\tau\text{-}\epsilon\text{-}\sigma\theta\alpha\upsilon$.
<i>Passive.</i>	$\epsilon\iota$ (= $\epsilon\text{-}\sigma\alpha\upsilon$).	η	= $\epsilon\text{-}\alpha\text{-}\sigma\alpha\upsilon$.	$\omicron\text{-}\iota\text{-}\text{(}\sigma\text{)}\omicron$.
	$\epsilon\text{-}\tau\alpha\upsilon$.	$\eta\text{-}\tau\alpha\iota$	= $\epsilon\text{-}\alpha\text{-}\tau\alpha\upsilon$.	$\omicron\text{-}\iota\text{-}\tau\omicron$.
	$\omicron\text{-}\mu\epsilon\theta\omicron\upsilon$.	$\omega\text{-}\mu\epsilon\theta\omicron\upsilon$	= $\omicron\text{-}\alpha\text{-}\mu\epsilon\theta\omicron\upsilon$.	$\omicron\text{-}\iota\text{-}\mu\epsilon\theta\omicron\upsilon$.
	$\epsilon\text{-}\sigma\theta\omicron\upsilon$.	$\eta\text{-}\sigma\theta\omicron\upsilon$	= $\epsilon\text{-}\alpha\text{-}\sigma\theta\omicron\upsilon$.	$\omicron\text{-}\iota\text{-}\sigma\theta\omicron\upsilon$.
	$\epsilon\text{-}\sigma\theta\omicron\upsilon$.	$\eta\text{-}\sigma\theta\omicron\upsilon$	= $\epsilon\text{-}\alpha\text{-}\sigma\theta\omicron\upsilon$.	$\omicron\text{-}\iota\text{-}\sigma\theta\eta\upsilon$.
	$\omicron\text{-}\mu\epsilon\theta\alpha$.	$\omega\text{-}\mu\epsilon\theta\alpha$	= $\omicron\text{-}\alpha\text{-}\mu\epsilon\theta\alpha$.	$\omicron\text{-}\iota\text{-}\mu\epsilon\theta\alpha$.
	$\epsilon\text{-}\sigma\theta\epsilon$.	$\eta\text{-}\sigma\theta\epsilon$	= $\epsilon\text{-}\alpha\text{-}\sigma\theta\epsilon$.	$\omicron\text{-}\iota\text{-}\sigma\theta\epsilon$.
	$\omicron\text{-}\eta\tau\alpha\iota$.	$\omega\text{-}\eta\tau\alpha\iota$	= $\omicron\text{-}\alpha\text{-}\eta\tau\alpha\iota$.	$\omicron\text{-}\iota\text{-}\eta\tau\omicron$.

3. Imperfect *Ind.* $\dot{\epsilon}\tau\upsilon\pi\tau\text{-}\alpha\text{-}\nu$.
Active. $\epsilon\text{-}\xi$.
 etc. (as Strong Aorist).

4. Imperfect *Ind.* $\dot{\epsilon}\tau\upsilon\pi\tau\text{-}\alpha\text{-}\mu\eta\nu$.
Passive. $\alpha\nu$ (= $\epsilon\text{-}\sigma\alpha$).
 $\epsilon\text{-}\tau\alpha$.
 $\alpha\text{-}\mu\epsilon\theta\alpha\nu$.
 $\epsilon\text{-}\sigma\theta\alpha\nu$.
 $\epsilon\text{-}\sigma\theta\eta\nu$.
 $\alpha\text{-}\mu\epsilon\theta\alpha$.
 $\epsilon\text{-}\sigma\theta\epsilon$.
 $\alpha\text{-}\nu\tau\alpha$.

Future stem $\tau\upsilon\psi\text{---}$ (i.e. $\tau\upsilon\pi\text{-}\sigma$): hence are formed the Future Active and Middle, viz. —

1. Future *Ind.* $\tau\upsilon\psi\text{-}\omega$ (= $\alpha\text{-}\mu$).
Active. ϵis (= $\epsilon\text{-}\sigma$).
 etc. (as Present Active).
2. Future *Ind.* $\tau\upsilon\psi\text{-}\alpha\text{-}\mu\alpha$.
Middle. ϵt (= $\epsilon\text{-}\sigma\alpha$).
 etc. (as Present Passive).
- Opt.* $\tau\upsilon\psi\text{-}\alpha\text{-}\iota\text{-}\mu$.
 $\alpha\text{-}\iota\text{-}\xi$.
 etc. (as Strong Aorist).
- Opt.* $\tau\upsilon\psi\text{-}\alpha\text{-}\iota\text{-}\mu\eta\nu$.
 $\alpha\text{-}\iota\text{-}(\sigma)\alpha$.
 etc. (as Present Passive).
- Inf.* $\tau\upsilon\psi\text{-}\epsilon\nu$ = $\tau\upsilon\psi\text{-}\epsilon\nu$.
Partic. $\tau\upsilon\psi\text{-}\omega\nu$ = $\tau\upsilon\psi\text{-}\alpha\nu\text{-}\xi$.
 etc. (as Strong Aorist).
- Inf.* $\tau\upsilon\psi\text{-}\epsilon\sigma\theta\alpha$.
Partic. $\tau\upsilon\psi\text{-}\alpha\text{-}\mu\epsilon\nu\text{-}\xi$.

Weak Aorist stem $\tau\upsilon\psi\alpha$ (i.e. $\tau\upsilon\pi\text{-}\sigma\alpha$): hence is formed the Weak (1st) Aorist Active and Middle, viz. —

1. *Active Ind.* $\dot{\epsilon}\tau\upsilon\psi\alpha\text{-}(\nu)$.
 $\alpha\text{-}\xi$.
 ϵ (= $\alpha\text{-}\tau$).
 $\alpha\text{-}\tau\alpha\nu$.
 $\alpha\text{-}\tau\omega\nu$.
 $\alpha\text{-}\tau\epsilon$.
 $\alpha\text{-}\tau\omega\text{-}\sigma\alpha\nu$.
 $\alpha\text{-}\nu\tau\omega\text{-}\nu$.
 $\alpha\text{-}\nu$.
- Subj.* $\tau\upsilon\psi\omega$ = $\tau\upsilon\psi\alpha\text{-}\alpha\text{-}\mu$.
 $\mu\epsilon$ = $\epsilon\text{-}\alpha\text{-}\sigma$.
 μ = $\epsilon\text{-}\alpha\text{-}\tau$.
 etc. (as Strong Aorist).
- Inf.* $\tau\upsilon\psi\alpha$ = $\tau\upsilon\psi\alpha\text{-}\alpha$.
Partic. $\tau\upsilon\psi\alpha\varsigma$ = $\tau\upsilon\psi\alpha\nu\text{-}\xi$.
 $\alpha\sigma\alpha$ = $\alpha\nu\tau\alpha$.
 $\alpha\nu$ = $\alpha\nu\tau$.
- Opt.* $\tau\upsilon\psi\alpha\text{-}\iota\text{-}\mu$.
 $\alpha\text{-}\iota\text{-}\xi$.
 etc. (as Strong Aorist).

2. *Middle Ind.* ε-τυψα-μην.
 ω (= α-αυ).
 α-τω.
 α-μ-θον.
 α-σθον.
 α-σθην.
 α-μεθα.
 α-σθε.
 α-ντο.

Imp. τυψαι(= τυψα-σαν). *Subj.* τυψ-ω-μαι = τυψα-ο-α-μαι. *Inf.* τυψα-σθαι.
 α-σθω.
 α-σθων.
 α-σθε.
 α-σθω-σαν.
 α-σθω-ν.
 or
 α-σθω-ν.

Opt. τυψα-ι-μην.
 α-ι-(σ)ο.
 α-ι-το.
 etc. (as Present
 Passive).

Passive Aorist stems τυπ-η- (whence the Strong Aorist Passive) and τυφ-θη-, i.e. τυπ-θη- (whence the Weak Aorist Passive), viz.—

1. Strong Aorist, i-τυπη-ν.
Ind.
 η-ς.
 η-(τ).
 η-τον.
 η-την.
 η-μεν.
 η-τε.
 η-σαν.
Imp. τυπη-θη.
 η-τω.
 η-τον.
 η-των.
 η-τε.
 η-τω-σαν.
 or
 ε-ντω-ν.
Subj. τυπ-ω = τυπε-ο-α-μι.
 ης = ε-α-σι.
 η = ε-α-τι.
 etc. (as Strong
 Aorist Active).
Opt. τυπε-η-ν.
 η-ς.
 η.
 η-των.
 η-την.
 η-μεν.
 η-τε.
 η-σαν.
Inf. τυπη-ναι.
Partic. τυπεις = τυπεντ-ς.
 εισα = εντγα.
 εν = εντ.

2. Weak Aorist, i-τυφθη-ν.
Ind.
 η-ς.
 η-(τ).
 etc. (as Strong
 Aorist Passive).
Imp. τυφθη-τι (= θι).
 η-τω.
 etc. (as
 Strong Aorist
 Passive).
Subj. τυφθ-ω = τυφθε-ο-α-μαι.
 ης = ε-α-σαι.
 etc. (as Strong
 Aorist Passive).
Opt. τυφθε-η-ν.
 η-ς.
 etc. (as Strong
 Aorist Passive).
Inf. τυφθη-ναι.
Partic. τυφθεις = τυφθεντ-ς.
 etc. (as
 Strong Aorist
 Passive).

APPENDIX B.

ANALYSIS OF THE VERB AUDIO.

Verb Stem—AUDI.

Present Stem—Audi : hence are formed the Present, Future, and Imperfect tenses, viz. —

1. <i>Present Ind.</i> audi-o-(m).			<i>Subj.</i> audi-a-m.			<i>Imper.</i> 2. audi-(dhi) and audi-to.			<i>Inf.</i> audi-re = <i>probably</i>		
s.			s.			3.			audi-sci.		
t.			t.			2. audi-te			<i>Partic.</i> audi-ens =		
mus.			mus.			3.			audi-ent-s.		
tis.			tis.								
u-nt.			nt.								
2. <i>Future Ind.</i> audi-a m.			<i>Partic.</i> audi-turu-s.								
e-s.											
e-t.											
e-mus.											
e-tis.											
e-nt.											
3. <i>Imperfect Ind.</i> audi-e-bam			= audi-e-fua-m.			<i>Subj.</i> audi-rem			= audi-esa-i-m.		
bas			bas		s.	res			s.		
bat			bat		t.	ret			t.		
bamus			bamus		mus.	remus			mus.		
batis			batis		tis.	retis			tis.		
bant			bant		nt.	rent			nt.		

Perfect Stem—Audi-v(i) : hence are formed the Perfect, Future Perfect, and Pluperfect tenses, viz.—

1. <i>Perfect Ind.</i> audi-vi-(m).		<i>Subj.</i> audiv-e-rim = audiv-i-sim.		<i>Inf.</i> audi-v-sse (or <i>perhaps rather</i> audiv-is-se).	
-sti.		ris	=	sis.	
-t.		rit	=	sit.	
-mus.		rimus	=	simus.	
-stis.		ritis	=	sitis.	
e-runt (= i-sont).		rint.	=	sint.	

2. *Future Ind.* audiv-er-o-(m).
Perfect.

i-s.
i-t.
i-mus.
i-tis.
i-nt.

3. *Pluperfect Ind.* audiv-er-a-m.

s.
t.
mus.
tis.
nt.

Subj. audiv-ssem = audiv-esa-i-m.
sses = s.
sset. = t.
ssemus = mus.
ssetis = tis.
ssent = nt.

N.B. The Passive voice in tenses formed from the Present Stem is merely the Active with *se* appended ; tenses formed from the Perfect Stem are periphrastic.
The formation of the gerunds, supines, etc., is obvious.

APPENDIX C.

THE GRÆCO-LATIN ROOT "ES" (= TO BE).

Probable original Indo-European form.		Greek.		Latin.	
<i>Indicative Mood.</i>					
<i>Present.</i> AS-MA.		ἐσμι (= ἐσ-μι).		sum (= es-u-m).	
	TVA.	ἐσθι (= ἐσ-σθι).		es (= es-s).	
	TA.	ἐσ-τι.		es-t.	
	TAM.	ἐσ-τον.			
	TAM.	ἐσ-τον.			
	MAS.	ἐσ-μεν.			
	TVAS.	ἐσ-τε.			
	ANTI.	ἐσσι (= ἐσ-ντι).		sumus (= es-u-mus).	
<i>Future.</i> AS-YA-MA (middle MAMI).		(Middle) ἐσμαι =		es-tis.	
	TVA.	ἐσθι	ἐσ-γ-ο-μαι.	sunt (= es-u-nt).	
	TA.	ἐσται	ἐσ-γ-ε-σθαι.	ero = es-y-o-m.	
	—	ἐσομεθον	ἐσ-γ-ε-ται.	eris es-y-i-s.	
	TAM.	ἐσεσθον	ἐσ-γ-ο-μεθον.	erit es-y-i-t.	
	TAM.	ἐσεσθον	ἐσ-γ-ε-σθον.		
	MADHAI.	ἐσομεθα	ἐσ-γ-ο-μεθα.	erimus es-y-i-mus.	
	MAS.	ἐσεσθε	ἐσ-γ-ε-σθε.	eritis es-y-i-tis.	
	TVAS.	ἐσονται	ἐσ-γ-ο-νται.	erunt es-y-u-nt.	
	ANTI.	ἔσονται	ἐσ-γ-ο-νται.	eram = esa-m.	
<i>Past.</i> AS-A-MA.		ἦν = ἐ-εσα-ν.		eras esa-s.	
	TVA.	ἦσθα	ἐ-εσα-(TVA).	erat esa-t.	
	TA.	ἦν	ἐ-εσα-τ.		
	TAM.	ἦστων	ἐ-εσα-των.		
	TAM.	ἦστων	ἐ-εσα-των.		
	MAS.	ἦμεν	ἐ-εσα-μεν.	eramus esa-mus.	
	TVAS.	ἦστε	ἐ-εσα-τε.	eratis esa-tis.	
	ANTI.	ἦσαν	ἐ-εσα-ν.	erant esa-nt.	

Probable original
Indo-European form.

Imperative Mood.

Present. AS-TVA.

-TA.

-TAM.

-TAM.

-TVAS.

-ANTI.

Subjunctive Mood.

Present. AS-Ā-MA.

TVA.

TA.

TAM.

TAM.

MAS.

TVAS.

ANTI.

Optative Mood.

Present. AS-YA-MA.

TVA.

TA.

TAM.

TAM.

MAS.

TVAS.

ANTI.

Greek.

ισθι (= ισ-θι).

ισ-τω.

ισ-των.

ισ-τωνν.

ισ-τε.

ισ-τω-σαν.

or ισ-τωνν.

ω̑ = ισ-α-μι.

ω̑ς ισ-α-σι.

η̑ ισ-α-τι.

η̑τωνν ισ-α-τωνν.

η̑τωνν ισ-α-τωνν.

ω̑μεν ισ-α-μεν.

η̑τε ισ-α-τε.

ω̑σι ισ-α-ντι.

ειην = ισ-ιη-ν.

ειης ισ-ιη-ς.

ειη ισ-ιη-(τ).

ειητωνν ισ-ιη-τωνν.

ειητωνν ισ-ιη-τωνν.

ειημεν ισ-ιη-μεν.

ειητε ισ-ιη-τε.

ειενν ισ-ιη-ν.

Latin.

es (= es-dhi and es-to).

es-to.

es-te and es-tote.

sunto (= es-u-nto).

sim

= es-ie-m.

sis es-ie-s.

sit es-ie-t.

simus

es-ie-mus.

sitis es-ie-tis.

sint es-ie-nt.

Probable original
Indo-European form.

Future. AS-YA-YA-MAML.
(Middle.) SASI.
TATI.

?

?

?

MADHAI.

SDHVAL.

ANTATI.

Past. AS-A-YA-MA.

TVA.

TA.

TAM.

TAM.

MAS.

TVAS.

ANTI.

Infinitive Mood.

Present.

Future (Middle).

Participles.

Present.

Future (Middle).

Greek.

ἔσοιμην = ἔσ-γ-ο-ι-μην.

ἔσοιο = ἔσ-γ-ο-ι-σο.

ἔσοιτο = ἔσ-γ-ο-ι-το.

ἔσοιμεθον = ἔσ-γ-ο-ι-μεθον.

ἔσοισθον = ἔσ-γ-ο-ι-σθον.

ἔσοισθην = ἔσ-γ-ο-ι-σθην.

ἔσοιμεθα = ἔσ-γ-ο-ι-μεθα.

ἔσοισθε = ἔσ-γ-ο-ι-σθε.

ἔσοιντο = ἔσ-γ-ο-ι-ντο.

essem = esa-i-m.

esses = esa-i-s.

esset = esa-i-t.

essemus = esa-i-mus.

essetis = esa-i-tis.

essent = esa-i-nt.

es-se = es-sei.

ἔναι = ἔσ-ναι.

ἔσ-ε-σθαι.

ἔν = ἔσ-οι-τ-ς.

ἔσομενος = ἔσ-γ-ο-μειν-ος.

-sens = -es-ent-s (ε.γ. ab-sens,

(or -ens) pot-ens).

APPENDIX D.

ANALYSIS OF THE FRENCH VERB "AIMER."

Indicative Mood.

Present.

aim-e.
aim-es.
aim-e.^t
aim-ons.
aim-ez.

Cf. Latin. am-o.
am-as.
am-at.
am-amus.
am-atis.
am-ant.

Imperfect. aim-ais.
aim-ais.
aim-ait.
aim-ions.
aim-iez.
aim-aient.

Cf. Latin. am-abam.
am-abas.
am-abat.
am-abamus.
am-abatis.
am-abant.

Past Definite.

aim-ai.
aim-as.
aim-at.
aim-âmes.
aim-âtes.
aim-èrent.

Cf. Latin. am-avi.
am-avisti.
am-avit.
am-avimus.
am-avistis.
am-averunt.

Future. aimer-ai.
-as.
-a.
-ons (= avons).
-ez (= avez).
-ont.

N.B. In Latin this would correspond to *amare-habeo*, etc.

Conditional.

Present.

aimer-ais
ais
ait
ions
iez
aient (= avaient).

(= avais), corresponding in Latin to *amare-habebam*, etc.
(= avait).
(= avions).
(= aviez).
(= avaient).

Imperative Mood.

aim-e.
aim-e.
aim-ons.
aim-ez.
aim-ent.

Practically the same as the Present Indicative, just as the Latin Imperative is really a modification of the Present Indicative.

¹ Final *t* appears in the interrogative *a-t-il*.

Subjunctive Mood.
Present.

aim-e.	Cf. Latin.	am-em.
aim-es.		am-es.
aim-e.		am-et.
aim-ions.		am-emus.
aim-iez.		am-etis.
aim-ent.		am-ent.

Imperfect.

aim-asse.	Cf. Latin.	am-avissem.
aim-asses.		am-avisses.
aim-ât.		am-avisset.
aim-assions.		am-avissemus.
aim-assiez.		am-avissetis.
aim-assent.		am-avissent.

Infinitive.

Cf. Latin. am-are.

Participle.

<i>Present.</i> aimant.	Cf. Latin. am-ans (= am-ants).
<i>Past.</i> aim-é.	Cf. Latin. am-âtus.

The other tenses are obviously periphrastic.

QUESTIONS FOR EXAMINATION.

CHAPTER.

- i. 1. Define Language and Speech, and explain the distinction between them.
2. What are the chief deficiencies of Gesticulation considered as a means for communicating thought?
3. Criticize the statement that each of our senses might be used as a vehicle of communication.
4. How far would it be correct to speak of a "Language of Flowers"?
- ii. 5. Enumerate the various organs of speech, and explain their use.
6. What is the difference between *voice* and *breath*?
7. Classify the Greek consonants according to the parts of the mouth that approach each other in their pronunciation.
8. Explain the terms—*mute*, *nasal*, *surd*, *sonant*, *aspirate*.
9. Illustrate the influence of climate on pronunciation.
- iii. 10. What is the connection of Writing and Speech?
11. Explain the influence of Writing on civilization.
12. Enumerate the different stages of alphabetic development.

CHAPTER.

- iii. 13. What is the distinction between an *ideogram* and a *phonogram*? Illustrate.
14. Give some account of the origin of the Greek Alphabet.
15. Enumerate the main differences between the Ionian and Chalkidian Alphabets.
16. What proofs of the existence of lost consonants are there in Greek?
17. The history of the letter *G*.
18. By what tests can we detect Greek words transcribed into Latin?
19. What is the origin of the symbol for the "rough breathing" in Greek?
20. How does the Latin Alphabet differ from the Greek?
21. Enumerate the requisites of a perfect alphabet. How far does the Greek Alphabet comply with them?
- iv. 22. What are the chief theories as to the Origin of Language?
23. Explain what is meant by *onomatopœia*.
24. Criticize Horne Tooke's dictum—*The dominion of Speech is erected on the downfall of Interjections*.
- v. 25. What are the tests of linguistic affinity?
26. Explain what is meant by a Genealogical Classification of Language.
27. Give the different languages belonging to the Aryan family.
28. Explain the terms *Aramaic*, *Basque*, *Vedas*, *Zend-Avesta*, *Langue d'oc*.
29. What are the Romance languages?
30. What is the objection to the term *Turanian Family*?

CHAPTER.

- v. 31. Refer the following Aryan dialects to their appropriate heads—*Erse, Russian, Flemish, Armorican, Portuguese, Sanskrit, Manx.*
- vi. 32. What does Language tell us as to the habits of the Indo-European race before its separation? What is the nature of the evidence employed?
33. Give a list of the original Indo-European sounds.
34. State and explain Grimm's Law.
35. Test by Grimm's Law the connection of *call* and *καλέω*, *whole* and *ὅλος*, *flow* and *fluō*, *spear* and *sparus*.
36. What are the main exceptions to Grimm's Law? Give illustrations.
37. What is the distinction between *Dynamic* and *Phonetic* change?
38. What is meant by Labialism?
- vii. 39. State what is meant by a Morphological Classification of Languages.
40. Explain the terms *Holophrastic, Agglutinative, Polysynthetic.*
41. Criticize the statement—"The tendency of language is from synthesis to analysis."
- viii. 42. What is meant by an inflection?
43. Define a *Root*, and distinguish from a *Stem*.
44. How are Roots divided according to—(a) their meaning, (b) their form?
45. What are the various ways of forming a Stem?
46. Show how the different Parts of Speech can be resolved into Nouns and Verbs.
- ix. 47. What is the distinction between *Gender* and *Sex*?
48. Give some account of the origin of Gender in the case of the names of abstract qualities.

CHAPTER.

- ix. 49. State the chief methods for denoting Gender employed in the classical languages.
50. How are distinctions of Sex denoted in modern English?
51. State the theories as to the origin of the Dual number.
52. What traces of a Dual do we find in Latin and English?
53. Prove that even among the Greeks the Dual was a mere 'luxury of language.'
54. How many cases were there in the original Indo-European language, and how are they represented in Greek and Latin?
55. Which case is thought to be the oldest, and why?
56. Explain the term *Case*, and criticize its applicability to—(a) the Nominative, (b) the Vocative.
57. Classify the Greek and Latin declensions under the heads *Vowel-Declension* and *Consonant-Declension*.
58. Criticize the statement that the Fifth Declension in Latin is really an etymological blunder for the First.
59. State and explain the Indo-European case-endings.
60. What evidence have we that the First Declension in Latin had its Nominative originally ending in *s*?
61. Analyse the terminations of the Genitive Singular in Latin.
62. What is meant by a Locative Case? Explain the rule as to "rest at a place" in Latin.
63. Explain the termination of the Genitive Dual in the Greek Consonantal Declension.
64. How are the terminations of the Nominative Plural in Greek and Latin referred to one original type?

CHAPTER.

- ix. 65. Analyse—*med*, *φαινομένηφιν*, *postridie*, *ἴφι*, *τριχός*, *musæ*, *defum*, *carnis*, *δήμοιο*, *meridie*, *ἵπποι*, *Ζεῦς*, *πάτηρ*, *senati*, *βίηφι*, *χαμαί*, *βασίλεως*, *νῆα*, *ἄνδρασι*, *πολίτου*, *πούς*, *cinerem*, *τους*, *domi*, *μένους*, *πολίεσσιν*, *χαρίεσσα*.
66. What are the main differences between the declension of Pronouns and that of Nouns?
67. Illustrate the use of the intensitive *-i-* in the Pronominal declensions.
68. Explain the forms—*ejus*, *cujus*, *hujus*, *hæc* (plural), *ipse*, *quod*, *istic*.
69. What were the original comparative suffixes? Point out how they are represented in Latin and Greek.
70. In all superlative terminations the root TA or MA is found. Criticize this.
71. Analyse—*μείζων*, *maiores*, *plus*, *θάσσων*, *gracillimus*, *pejus*, *maximus*, *tristissimus*, *ἀμείνων*, *ράων*, *juniores*, *μείονος*, *malevolentior*, *proximus*, *plurimi* (Nom.), *imus*.
72. Explain the origin of the Roman numerical symbols.
73. Show the connection between *four*, *quattuor*, and *τέσσαρες*; *two*, *bis*, and *δύο*; *twenty*, *viginti*, and *εἴκοσι*; and explain the origin of *ἐκατόν*.
74. Illustrate the statement that Particles are mostly mutilated case-forms.
- x. 75. State and explain the Indo-European Personal endings in the Active voice of Verbs.
76. Examine the termination of *ἐφησθα*.
77. What is meant by the Augment? In what tenses is it employed?
78. Give the chief rules for the use of the Augment. When is it omitted?

CHAPTER.

- x. 79. What is the use and origin of “ν ἐφελκυστικόν”?
80. Explain the Active Imperative terminations in Latin.
81. How is the form τυπτέτωσαν accounted for?
82. Criticize the statement that etymologically the Middle Voice was prior to the Passive.
83. Explain the forms *amamini* and *amaminor*.
84. What was the characteristic letter of the Subjunctive mood? What Latin tenses contain traces of it?
85. What relics of an Optative mood remain in Latin?
86. What are the uses of Reduplication?
87. State what grounds there are for considering the Second Aorist to have been the primitive tense for expressing past time in Greek.
88. Give the chief rules for Reduplication.
89. Explain the term *Attic Reduplication*.
90. What are the different methods of forming the Perfect tense in Latin?
91. What analogies are to be found in the formation of a Greek verb to the use of ‘auxiliary verbs’ in modern English?
92. What use is made of the root ES in the formation of a Greek verb, and of the root FU in the formation of a Latin verb?
93. How does Reduplication in a Latin verb differ in form from its use in a Greek verb?
94. What difficulty is caused by the terminations of the Perfect Indicative Active in Latin?
95. Enumerate the different ways of forming the Present stem in Latin and Greek.
96. Illustrate the use of the root YA as a tense-formative.

CHAPTER.

- x. 97. What are the different theories as to the formation of the Future Simple in Latin?
98. How is the form *faxim* explained?
99. "The Infinitive is rather a case of a noun than a mood of a verb"—criticize this statement.
100. State and explain the Infinitive terminations in Latin.
101. What relics of a Participial termination analogous to the Greek *-μενος* are to be found in Latin?
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102. Analyse the following words into their component parts—*dicebam, inquam, laudaverunt, ἔγνων, audiveratis, amaverimus, φημί, δέσποινα, amarier, ἔχεα, εἵληφα, posui, πίπτω, majorem, ἡγαγον, εἶην, ausim, illius, κλαίω, ἐχθαίρησι, ἐλάσσων, amet, ἐμανθάνοντο, τιθείς, θιγγάνω, stetit, ἔπεσον, τύπτοιμι, ὀμιλήσαντες, ἐσπόμην, rettuli, γίγνομαι, quæsit, εἶπον, ὑμεῖς.*
103. Explain the formation of the Future Active in Greek.
104. How far are the Greek middle and passive distinct in form?
105. Examine the connection of *deus* and *θεός*; *εἷς* and *unus*; *cælum* and *κοῖλον*.
106. Compare with other languages the words—*five, ten, three, queen, heart, deer, whole, fumus, hortus.*
107. Analyse—*ἴδμεν, δῆμοιο, ἔμμεναι, πενθοῖατο, meridiæ, hisce* (nom. pl.), *siet, tumulti* (gen.), *θεόθεν, χαμαί, ἐλάσσων, quia, sed, fuat, ἐπράχθην, τιμῶμεν, μείζων, πατήρ, βασιλεως, τίθεσαι, ἐνσμενοῦς, cujus, hominibus, maxime, fecissent, reconciliassere.*
108. What does Comparative Philology show to be the relation between Latin and Greek? Illustrate.

109. Discuss the form and etymology of *fumus*, *sudor*, *nix*, *stella*, *amamini*, *siem*, *ambo*, *δικαιος*, *εἰδῶτα*, *bishopric*, *épingle*, *zimmer*.
110. How far has the growth of the Science of Language affected Classical Scholarship?
111. Analyse—*fuissem*, *majoribus*, *ubi*, *antea*, *amet*, *fecit*, *carpo*, *levasso*, ἵπποιο, ἐμοῦς, οἶσθα, ἐλθεμέναι, λυσάτωσαν, ἰσάμενος, καλῶς.
112. Explain why Greek has no ablative.
113. In what sense is it true that the language of poetry is older than that of prose?
114. Analyse—*dicebam*, πῖσνρες, ἰδοῦσα, ἐληλέεα?.
115. Discuss the various forms assumed by the Infinitive Active in Greek and the Perfect Active in Latin.
116. Analyse—φημί, φαινομένηφιν, κτήσεσθε, ἤχθη, ἔθεντο, *dixcrit*, *prodesse*, *faxit*, *amamini*.
117. What traces are there of lost case-forms in Latin and Greek?
118. In what respects is the Latin verb older than the Greek?
119. Is it possible out of Greek and Latin to frame a complete system of Aryan case-endings?
120. Explain the tendency of Language from synthesis to analysis.
121. Trace the connection of *χελιῶν* and *hirundo*, *λείπω* and *linguo*, *ζύμη* and *jus*, *εὔω* and *uro*, *ἐλαχύς* and *levis*, *εἴκοσι* and *viginti*, *ἀστήρ* and *stella*.
122. Give some account of the derivation of *ὤς*, *ἴνα*, *ὅτι*, *ἄπαξ*, *οὔ*, *ὅθεν*, *ubi*, *ut*, *dum*, *donec*, *tandem*, *unde*.
123. The origin of Prepositions.
124. The tense formatives in Greek and Latin verbs.
125. What value has a smattering of Philology for a student of Greek and Latin?
126. Classify Greek verbs according to the mode in which the Present-stem is formed from the Verb-stem. Are

there verbs in which the additional element introduced in the Present-stem is proved to have a particular meaning?

127. Give the archaic terminations of the Greek Present in *-ω*, and show how the Classical forms were arrived at.
128. Give some history of the Latin Alphabet.
129. What justification had the Romans for their complaints as to *patrii sermonis egestas*?
130. Illustrate the slight stress on *n* and *m* in Latin.
131. Is the structure of the Greek or Latin language the more primitive?
132. State fully without discussing any theories you know as to the origin of Language.
133. In what respect is the English alphabet redundant?
134. Discuss the spelling of *cælum*, *hyems*, *Sylla*, *pulcher*, *sylvæ*, *cæteri*, *lacryma*, *Caius*, *clypeus*.
135. What European languages are not Aryan?
136. Explain the origin of the name *Digamma*.
137. What grounds are there for regarding the Third Conjugation in Latin as the oldest?
138. What is the position of the Augment in Greek verbs compounded with a Preposition? Mention exceptions.
139. Discuss the statement—*Eadem forma litteris Latinis quæ veterrimis Græcorum*.
140. Explain the pronominal genitive in *-ius*. Give list of words possessing it.
141. Analyse—*εἶχον*, *fecerim*, *solistimum*, *φυλάσσω*, *alumnus*, *ἐώθουν*, *πᾶσι*, *esto*, *regetis*, *εἶπεῖν*, *ἔσχον*, *texisti*, *sum*.
142. Discuss the connection of *ὄνυξ* and *unguis*, *Κρόνος* and *χρόνος*, *ὄνομα* and *nomen*, *βίος* and *vita*, *eye* and *oculus*, *shadow* and *σκία*, *βροτός* and *mortal*.
143. Is it right to speak of the Infinitive as the 'verb-noun'?
144. How far has false analogy influenced inflections?

145. "Mythology is diseased language." Discuss this.
146. Enumerate the chief classes of consonantal change.
147. Explain augments in *æ*.
148. Is it correct to say that the Roman alphabet is older than the Greek?
149. Compare Greek and Latin prepositions in form.
150. How far is Philology a reliable witness as to past civilization?

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